

Berber^{*}

Mohamed Elmedlaoui, IURS / Université Mohammed-V-Souissi, Rabat

Introduction

This chapter aims at introducing the Berber group within a comparative Afroasiatic perspective. In addition to the fundamental features of the historical and sociolinguistic contexts (sections 1 and 2), phonology (section 3.1), morphology (section 3.2), syntax (section 3.3), and lexicon (section 3.4) of Berber, the chapter includes a thorough description of a fragment of Berber morphology as an example of Berber data with high theoretical significance: the plural formation in Tashlhiyt Berber (section 3.2.2.3). Section 3.4.3 consists of a small sample of lexical material. Based on such a sample and on the different comparative remarks made, the conclusion is that the linguistic facts pertaining to Berber and Semitic could be more adequately understood through a systematic comparison, irrespective of the nature of the concrete (historical) relation between the two groups, i.e. genetic, typological, and/or of mere long distance contact. Finally, in section 4, two small Tashlhiyt Berber texts, one in prose and one in poetry, are given as text samples with interlinear transcription and translation.

1 Berber in its historical and sociolinguistic contexts

1.1 Overview

The term “Berber” covers a group of linguistic varieties spoken in North Africa. Its members are more or less akin to or distant from one another as to their sociolinguistic status and/or their specific structural, socio-cultural, and historical features. It has been non-controversial since Marcel Cohen (1969) that the Berber group (recently called *Amazigh*) belongs, together with the Semitic, Egyptian, Cushitic, and Chadic groups, to the wider Afroasiatic family, formerly also called *Hamito-Semitic* (see, e.g., Zaborski 1998).¹ The members of this

^{*} In homage to the late Paulette Galand-Pernet (1919-2011).

¹ On the basis of some phonological, morphological, and lexical affinities with Akkadian, some scholars (e.g., Rössler) have proposed to combine Berber with Semitic in a larger superfamily (cf. Moscati et al. 1964: 17).

wider family share the etymologies of a substantial part of their lexical stock and many typological structural features of their lexical, syntactic, morphological and phonological components (see Marcel Cohen 1969).² Yet, more than within the members of the Semitic family, such shared features are tighter and more systematic throughout the members of the Berber family. This holds, e.g., for the phonetic correspondences [g/ž/y]; [k/š], [l/ř/r]; [l/ž, ll/dd^z]; [trill/vocalized r]; [šš/tt^s]; [ss/tt^s]; [w/g/b]; [q/ɣ]; [h/Ø]; [s-š-ž/h], etc., whose importance and regularity vary according to the nodes considered on the genealogical tree of this family.³

The most ancient accessible texts related to Berbers are those devoted by Herodotus to some North African populations of early Antiquity, namely the *Nasamonians* or “Libyan Barbarians”. In those texts, valuable information interferes with fabulous fairy tales (see Herodotus 1994, index: *Libya, Nasamonians*). More consistent are texts by Latin historians, such as Titus Livius and Sallust. Following the medieval encyclopaedist Ibn Ḥaldūn, many historians tried to locate a remote origin of Berbers out of the land of North Africa, where they

2 For a detailed comparison of the Berber-Semitic root structure and make-up, see Elmedlaoui 1990, 1991/1994, and 1995b.

3 The notation of Berber linguistic data adopts the IPA alphabet, except for the following: /š/, /ž/ (anterior post-alveolar, unvoiced and voiced respectively); /ɣ/ (voiced uvular fricative); /ʕ/ (voiced pharyngeal fricative); /h/ (laryngeal voiced continuant); /ʔ/ glottal stop; /ř/ (< */l/), a strident flap phoneme in present-day Tarifit, phonetically identical to the Czech /ř/ in Dvořák for example. Concerning Berber, any single segment *x* preceded by an exclamation mark (!*x*) is an emphatic segment (only coronals may be phonemically emphatic). Given the fact that emphasis spreads all over the word in Berber, but also for typographical convenience, an emphasized stem containing more than one coronal, is preceded by only one exclamation mark (!*xxx*). For Semitic languages, subscript dots are used to represent the corresponding emphatics. When relevant to the issue, the morphosyntactic make-up of a string is sketched by the following boundary symbols: “-” affix boundary; “=” preposition=argument or host=clitic boundary. Bold font style is sometimes used to highlight (mostly phonological) issues at hand.

The following abbreviations are adopted: SG (singular); PL (plural); M (masculine); F (feminine); PRF (perfect); IPF (imperfect); PTCP (participle); tr. (transitive); intr. (intransitive); ACC ((direct) accusative pronoun); DAT ((indirect) dative pronoun); Ppro. (prepositional pronoun); INF (infinitive); DEIC (deictic); REL (relative marker); CAUS (causative prefix); CONT (continuous aspect); FS (free state); CS (construct state); TAM (tense-aspect-mood); BP (broken plural); TP (templatic plural); MP (mixed plural); InV (initial vowel).

Abbreviations for languages: Aram. (Aramean); Ber. (Berber); CA (Classical Arabic); Heb. (Hebrew); ITB (Imdlawn Tashlhiyt Berber); (O)MA ((Old) Moroccan Arabic); Sem. (Semitic).

emerged as the first known people since the beginning of the historical period. Some legends in that direction (see Laredo 1954) connect them, for example, with the Levant (Canaan and Yemen in particular).

After the Berber realms of Antiquity, in *Numidia* (current Northern Algeria) and in *Mauretania* (current Northern Morocco), which were more or less vassal states of Rome, certain Berber tribes very early converted to Islam at the beginning of the 8th century and adopted some first doctrinal frames of this religion (*Kharijism*, *Shiism*) when establishing new states. They immediately established their own Muslim emirates in North Africa as a means to recover independence *vis-à-vis* the Umayyad and later the Abbasid Islamic empires of the Levant. Between the 8th and 10th centuries, genuine Berber kingdoms were born in North Africa and Andalusia. At the height of its power, the *Almohade* Berber Empire (1055-1269) extended from Andalusia to the territories of current Mauretania, and from the Atlantic Ocean to the borders of Egypt. The orthodox Almoravid Empire (10th-11th centuries) put an end in North-Western Africa to some ancient religious manifestations considered then as “heretical” with respect to Islam. In particular, it eradicated the four centuries-old *Kharijite* Berber emirate of *Berghwata* (Atlantic plains of current Morocco), whose reported “Islam” was suspected of some Jewish-like substrata.⁴ In fact, “Tertullian, in the third century, shows us how the Berbers observed the Sabbath, the holidays, the fast, and the Jewish food laws” (Chouraqui 1998: 63).

1.2 The historical linguistic situation

As evidenced in part by numerous Libyco-Punic and / or Libyco-Latin bilingual inscriptions dating from Antiquity, a functional multilingualism has always marked the Berber homeland since its entry into the historical period. The regional or “international” languages which superseded each other in the Mediterranean area have successively been adopted by Berbers for different functions, but none has ever completely supplanted the local varieties of Berber in everyday life, folklore, and some literary genres until the last centuries when some Berber communities (Bni Zerwal, Zekara, Ghomara in part, notably in Northern Morocco) adopted some variants of colloquial Arabic. At every time, it is the dynamic relation between cultural and ideological trends in force in the Mediterranean space, more than the political *rapport de force* between ethnic

4 For some linguistic and cultural indications of such Jewish substrata, see Elmedlaoui 2006a and 2008.

groups, that determines the balance of the sociolinguistic terms (see Elmedlaoui 2006b). Thus, Juba II for example, king of Mauritania, was a historian of Greek culture and writing, while Greece has never had an ethnico-colonial presence in this country. Lucius Apuleius (125-180 AD), the Berber writer of the Constantine region of the current Algeria, remains famous with his imaginative creation, *Asinus Aureus* 'The Golden Ass', which he wrote in Latin. The Christian period was marked by the preeminent works written in Latin by the famous romanized Berber St. Augustine, a native of Taguest (current Souk Ahras in Algeria).

Thanks to the ideological ferment of the Kharijite and the Shiite Islamic rites, already rooted in North Africa as ideological frames opposed to the Levantine Umayyad and Abbasid empires and institutionally adopted as State doctrines by some early Islamic Berber states as alluded to above, the rapid influx into North Africa in the ninth century of only some tens of thousands of Bedouin Arabs emigrating from Arabia through Egypt marked the sociolinguistic chess-board of the Berber homeland more profoundly than any other ethno-political influence had done or would do later.

Then, generations of multilingual Berber intellectuals with an Islamic culture followed one another in this region, known also since those times as "Maghreb" (*al-mağrib*. i.e. "The West" in Arabic with respect to the Levant). The polyglot Ḥasan al-Wazzān, called Léon l'Africain (1483-1554), for instance, was a polyglot mastering Berber, Arabic, Romance, Hebrew, and other languages, and he became particularly famous with his well-known ethnographic *Description of Africa* that he wrote in Italian.

Nowadays, besides the indigenous languages (mainly Berber varieties and dialectal Arabic varieties) that share the sociolinguistic space in the Maghreb (i.e. North Africa), new international languages came on the stage, namely Spanish, French and, more recently, English. Once again, as in the past, it is values and ideologies in force, more than any ethnic *rapport de force*, that determine the stakes and the sociolinguistic functions of the competing languages, as evidenced by the case of English in particular.⁵ The last sociolinguistic developments in the Maghreb, characterized in particular by the emergence of the Berber cultural movement (which claims in particular the promotion of the status of

5 The First National Forum for Moroccan Creative Writers in English was held on March 14, 2001 at the *Faculty of Letters*, Mohammed 1st University (Oujda, Morocco) and its proceedings have been published.

Berber) grew in parallel with the decline of the socialist ideology and the abandonment of Pan-Arab nationalism.

1.3 Previous descriptions of the Berber group

Mostly in French, but also in German for a while, descriptions of various features and aspects of the Berber varieties began seriously only by the end of 19th century (Adolphe Hanoteau, René Basset, André Basset, etc.). In France, the post-colonial period is marked by the works of Lionel Galand (see Galand 2002), who in a sense continued André Basset's method, undogmatically adapted to the French functionalist school of linguistics. In the seventies of the 20th century, especially in Morocco (but also in Algeria with Mouloud Mammeri and Salem Chaker in particular), we witness the appearance of a number of works and theses on Berber linguistics and literature by Berber speaking natives themselves. In the last three decades, the phonological, prosodic, and syntactic properties of some well-described Berber varieties (Tashlhiyt in particular) finally conferred a particularly popular empirical value to "Berber" as a linguistic cover entity in generative theoretical circles. The variation, on both structural and sociolinguistic levels within the wide Berber linguistic family, remains however so confusingly conceived that the available data referred to seem sometimes to present internal contradiction, instead of allowing isoglossic parametrical settings and reliable evidence for theoretical assertions.

The scattered comparative and diachronic considerations of the early Berber studies already implied the concept of a *Pan-Berber* linguistic entity, an entity which in fact underlies André Basset's overall works, as an abstract archetypical language that frames the various descriptive fragments this author achieved on different individual Berber dialects. It was only with Karl Prasse's works (1972-1974) on the Touareg subset of the Berber family that the diachronic internal reconstruction of a hypothetical Proto-Berber achieved a settled methodological rigour. Indeed, Karl Prasse's works envisaged not an abstract "Pan-Berber" conceived as a kind of average standard idealized with respect to some distances *vis-à-vis* the attested dialects, but rather as a *Proto-Berber*, theoretically put forth as a hypothetical entity. Such a hypothetical entity not only allows for a regular derivation of all the evidenced dialectal forms from that hypothetical linguistic matrix while explaining them at the same time, but also makes predictions about an eventual existence of some other *états de langue*, theoretically possible on the basis of the different combinations of attested isoglosses, but empirically non-attested up to now in relevant studies.

Concerning phonology, a Proto-Berber phonemic system was suggested by André Basset 1946 (cf. Galand 2002: 32) and then confirmed in part by Karl Prasse (1972, I-III, I: 105) on the basis of an internal reconstruction by this latter of the Touareg subset of Berber (i.e. the Saharan varieties). It comprises the following phonemes:

/b, f, m, n, l, r, d, !d, s, z, !z, š, k, g, ɣ, ɣ, h, w, y/ (the sounds /!d/, /ɣ/, and /w/ having their geminate counterparts on the surface as [!tt], [qq], and [gg^w], respectively).

In view of this suggested phonemic system and of the phonetic comparison between the members of the Northern varieties of Berber (Kabyle, Tarifit, Tamazight, Tashlhiyt), the present Tashlhiyt Berber phonemic system, as well as the Touareg one (except for /h₂/ < *some sibilants in this latter), are the most conservative in their consonantism (see Galand 2002: 110). Some remarks by Boogert (1998) about the lexicon of certain Berber medieval texts written in Arabic script go in the same direction. Except for the fact of having developed labio-velars (g^w, k^w, ɣ^w, etc.) and extended the list of emphatics to other coronal segments, a fact common to many other varieties of Berber, there is only the lack of the old generation of the laryngeal *h that distinguishes the Tashlhiyt consonantal phonemic system from the one supposed for Proto-Berber. As for vowels, a two-quantity (short and long) and five-quality system of vowels (/a, i, e, u, o/) was suggested for Proto-Berber on the basis of the Touareg lexicon that seems to be the most conservative on this point. The Tashlhiyt dialect, by contrast, shows the most considerable degeneration of the Proto-Berber vocalism. Other Northern Berber varieties (Kabyle, Tarifit, and Tamazight) present an intermediate case on this point by preserving in some contexts a reduced mid vowel (schwa), cases where Tashlhiyt responds with zero to a supposed ancient vowel. As for the lexical material, the most conservative (i.e. the one containing the least new loan words from post-Islamic Arabic) is the Touareg lexicon.

1.4 Is Berber a language or a family?

As a linguistic entity, Berber covers in fact a whole linguistic group, ranging discontinuously from Morocco to Egypt, and from the Mediterranean Sea to the Sahara. Regarding its degree of homogeneousness, this group is comparable to the Germanic group (Kossmann 1999: 15) or to the North-West Semitic one as this latter is described in Moscati et al. 1964: 7-13. In the current state on the ground, “Berber language” is properly “a linguistic abstraction and not a sociolinguistic concrete reality” (Chaker 1995: 7; see also Galand 2002: 69-86; 2010: 1-

40). Nevertheless, the regularity of phonetic correspondences, the scarceness of etymological differences throughout the dialectal lexicons, and the peripheral status of morphological and syntactic variations, which remain regular isoglossic phenomena, offer a linguistic potential basis for a possible emergence of an eventual Berber *koiné*, provided that some sociolinguistic and socio-political conditions are met. That is precisely what is intended by the term “Pan-Berber”,⁶ commonly used in certain pro-Berber movements, and which determines the scope within which the three volumes of the *Arab-Berber Dictionary* by M. Chafik were conceived.

In the current state of affairs, substantial surface differences between the members of the Berber group concern phonetics, phonology, morphology, syntax, and the lexicon, as well as the amount and socio-cultural status of the literary heritage conveyed by each dialect.⁷ The accumulation of those structural differences in real speech ranges the mutual interdialectal understanding from easy to difficult and even impossible. Thus, just within Morocco, although mutual understanding is always easy in immediate geographic vicinity, it becomes impossible between remote variants (Tashlhiyt variety in the Sous region and the Tarifit one in the North, for example). In the current state of manuscripts and edited texts, only Tashlhiyt possesses a substantial documented corpus written in Arabic script that makes possible a diachronic distinction between two linguistic states: the current Tashlhiyt and the Medieval Tashlhiyt (Kossmann 1999 and references). It is a corpus consisting mostly of Islamic religious and preaching texts, written in Arabic script, and encompassing many centuries (Boogert 1997).

Variation also concerns the volume of available modern academic descriptions and the degree of scientific knowledge achieved for every member of the Berber group.

The current sociolinguistic status of the various members of the Berber group varies as well: the Berber variety of the Djerba island in Tunisia is no longer spoken nowadays by more than some tens of families, and only indoors. In Algeria, on the other hand, besides the Chaouia dialect (about 1.400.000 spea-

6 One such development is perhaps in progress currently throughout the Moroccan varieties of Berber. In the second half of the last decade (2010), many TV and radio programs began to be done from time to time in multidialectal (Tashlhiyt – Tarifit – Tamazight) discussion, where every participant speaks his own dialect, a fact that reflects an ongoing process of interdialectal understanding.

7 On Berber literature in general, see Galand-Pernet 1998.

kers in the Aurès region) and the Mozabite dialect (about 15.000 speakers in Ghardaia), the Kabyle variety (about 2.500.000 speakers) is present everywhere in Kabylia, including now at the university; and efforts continue to be made in this area for a modern management of that language. In Mali and in Niger, some Touareg varieties of Berber have been recognized as national languages and taught at school and in centers for illiteracy elimination since the sixties of the 20th century. In Morocco, where the largest number of Berber speaking people (about 15 millions; see Ennaji 2005: 72) is concentrated, and where the constitution accredits Arabic (*al-luġa al-‘arabiya*) as the official language of the Kingdom, an official introduction of Berber in education with a standardized writing began only in 2003 after the creation of the *Royal Institute for the Amazigh Culture* (henceforth IRCAM) through a royal *dahir*. But, on the non-official level, an almost learned Berber literary tradition, previously written exclusively in an Arabic-based script, had already been going on for several centuries, especially in the Tashlhiyt area as stated above (Boogert 1997).

The dialectal and sub-dialectal Berber entities traditionally in use in the literature up to now (Chaouia, Tashlhiyt, Kabyle, Mozabite, Rif, Tamazight, Touareg, Ouarglean, etc.) do not always correspond to concrete linguistic realities, namely the superimposition of a substantial set of well-defined isoglosses. It was rather the political consideration of some geo-political dimensions and socio-economic organizations, and weights of regions and human groups that underlie such a lay-dialectal mapping. The Figuig Berber variety in Morocco (see Kossmann 1997, Saa 2010), for instance, although exhibiting interesting empirical phonological, grammatical, and lexical peculiarities with respect to the other variants recognized as dialects, has not been explicitly recognized in the traditional literature as a dialect of its own,⁸ neither by the traditional Berber studies of the colonial period nor by the recent IRCAM Institute through its ongoing management of the so-called standardized (Moroccan) Berber *l’Amazighe Standard*. If this dialectal division, made in extra-linguistic terms, still remains meaningful on a socio-economic level, a classification based on isoglossic parameters is more interesting and is the only one to be significant from

8 Figuig Berber’s main phonological peculiarities are among others: (i) the devoicing of obstruent geminate stops, (ii) the assimilation of the feminine marker *-t* to any preceding sibilant, and (iii) a Moroccan Arabic-like distribution of phonological schwas between nominal and verbal forms (cf. Dell and Elmedlaoui 2002 for the distribution of schwas in MA).

the point of view of a proper linguistic study. The table below gives an idea of the major lexical correspondences between six dialects of the Berber group.

Table 1: Major Berber phonetic correspondences

Tahaggart (Touareg)	Tashlhiyt (Morocco)	Kabyle (Algeria)	Figuig (Morocco)	Tamazight (Morocco)	Tarifit (Morocco)	Gloss
<i>!oska</i>	<i>!uskay</i>	<i>!uššay</i>	<i>sslugi</i> ⁹	<i>!uṣṣa</i>	<i>!uššay</i>	‘greyhound’ ¹⁰
<i>t-a-!gzal-t</i>	<i>t-i-!gzzl-t</i>	<i>t-i-!gzzal-t</i>	<i>t-i-!yžal-t</i>	<i>t-i-!gzal-t</i>	<i>θ-i-!yzzat</i> ¹¹	‘kidney’
<i>a-gelhim</i> ¹²	<i>a-glzim</i>	<i>a-galzim</i>	<i>a-yalzim</i>	<i>a-gzzim</i>	<i>a-řizim</i>	‘axe’
<i>éhéder</i>	<i>i-gidr</i>	<i>i-gider</i>	<i>n-nsər</i>	<i>yidar</i>	<i>žiða:</i>	‘eagle’
<i>t-adhan-t</i>	<i>t-adgal-t</i>	<i>t-add^zal-t</i>	<i>t-ahžžal-t</i>	<i>t-ad^zal-t</i>	<i>θ-ažžat</i> ^s	‘widow’
<i>élem</i>	<i>ilm</i>	<i>a-g^wlim</i>	<i>ilem</i>	<i>iləm</i>	<i>iřem</i>	‘skin’
<i>a-!hiyod</i>	<i>a-!žddid</i>	<i>a-!žadd^zid</i>	–	<i>a-!ğdd^zid</i>	<i>a-!žžid</i>	‘scabies’
<i>a-gûhil</i>	<i>i-gigil</i>	<i>a-gužil</i>	<i>a-yužil</i>	<i>a-wižil</i>	<i>a-yužiř</i>	‘orphan’
<i>t-immé</i>	<i>i-gnzi</i>	<i>t-a-g^wənza</i>	<i>t-a-nyər-t</i>	<i>t-i-nir-t</i>	<i>θ-a-nya:-θ</i>	‘forehead’
<i>t-ahor-t</i>	<i>t-aggur-t</i>	<i>t-abbur-t</i>	<i>l-bab</i>	<i>t-aggur-t</i>	<i>θ-!awwa:-θ</i>	‘door’
<i>t-a-flu-t</i>	<i>t-i-flu-t</i>	<i>t-i-flu-t</i>	–	<i>t-iflu-t</i>	–	
<i>a-fus</i>	<i>a-fus</i>	<i>a-fus</i>	<i>a-fus</i>	<i>(a-)fus</i>	<i>fus</i>	‘hand’

2 Writing

Since the fourth century BC, inscriptions have existed in North Africa, using a written form of Berber. Although probably derived from the Phoenician script, those writings remain nevertheless original (Kossmann 1999; Galand 2002). The Libyc writing developed, through the old *Tifinagh* script (i.e. the Saharan in-

9 The Figuig Berber words for ‘greyhound’, ‘eagle’, and ‘door’ are loans from MA.

10 Given the fact that Proto-Berber had no emphatic /s/ nor /š/, the immediate etymology of the word for ‘greyhound’ should be *!uzkay* or even **!uzqay*, the emphatic **!z/* having undergone regressive devoicing, yielding /!s/; and the development of **k/* into /š/ in some dialects triggered sibilant harmony (see section 3.1.4).

11 The strident flap /ř/ (< **l/*) in nowadays Tarifit, phonetically similar to the Czech *r* in *Dvořák* for example, behaves differently, in this dialect’s phonology, from the historical Pan-Berber /r/ (< **r/*): it does not undergo the syllabic rhyme context vocalizing process /r/ > [a:] (cf. Dell and Tangi 1993), while it yields a strident voiced affricate [dd^z] when geminated, and an unvoiced affricate [t^s] through a bidirectional assimilation with a following /t/ within the word (Elmedlaoui 1993: 129, 145, 166). See Chami 1979 and Hamdaoui 1985 for the phonology and the phonetics of Tarifit.

12 In Tahagart, many generations of sibilants (including those originating from old velars) have developed into /h/ through a phonetic process of debuccalization.

scriptions) among Touaregs, into the modern script (Prasse 1972). The Libyc system of writing is “strictly consonant-based like the modern Touareg Tifinagh, the Western Semitic alphabets and the Egyptian hieroglyphs” (Prasse 1972: 145-146).¹³ With the advent of Islam in North Africa, the use of the *Tifinagh*, based on the old Libyc script, became confined to the Touareg dialectal areas in the Sahara. In all other Berber regions where the writing of some Berber variants is still more or less at use the *Tifinagh* was replaced by the Arabic script in writing Berber varieties.¹⁴ With the emergence of the Berber identity movements, we notice scattered tendencies to “revalue” different adaptations of the *Tifinagh* script also outside the Touareg area, very recently most noticeably in Morocco. As a matter of fact, the practical and functional passage of the various variants of Berber dialects into modern writing within those circles is developing, at present, in three main directions:

- (i) different adaptations of the *Tifinagh* tradition to the new phonetic and phonological realities of the targeted dialects (Touareg areas, and Moroccan areas since the creation of the IRCAM Institute in 2003);
- (ii) an adaptation of the Latin script, introduced in the nineteenth century by some Western missionaries, colonial servicemen, and ethnographers, and continued nowadays by some contemporary Berberologists as is the case for example with Mouloud Mammeri’s anthologies of Kabyle poems and with the series *Berber Studies*, directed by Harry Stroemer (cf. Podeur 2004, Roux 2007, Stroemer 2001, etc.); the same holds for the corpora of the overwhelming majority of theses and dissertations on Berber in Morocco and Algeria;
- (iii) a continuation of the medieval tradition of the Arabic script in use at non-institutional circles in Morocco in particular since the late sixties of the 20th century, but with some recent efforts of systematization in the light of the still ongoing orthographic standardization (cf. Elmedlaoui, 1999, Ameur et al. 2006);

13 For a discussion of the the history and origin of the Berber writing system, see Chaker and Hachi 2000.

14 The most famous corpus of such Arabic script written texts, recently edited many times, is the Tashlhiyt *baḥr ad-dam* ‘Ocean of Tears’ by Muḥammad al-Hawzālī (see Afa 2009 for the most recent edition in Arabic script, and Boogert 1997 for an edition in Latin script).

(iv) finally, except for a unique Tashlhiyt Berber version of the Passover *Haggadā(h) šel Pesah*, transcribed in Hebraic square alphabet and collected in the Dades region (Morocco) in the fifties of the 20th century (see Galand-Pernet and Zafrani 1974), we do not know of any other script that the Berber population would have used throughout its history.

Even though these various kinds of Berber documents present legible or rather decipherable linguistic material conveying linguistic semantic contents, they always require substantial philological elaboration in order to be exploitable as structural linguistic data. The nature and importance of such philological tasks depend on many factors, namely: the linguistic component to reconstruct (phonetics/phonology, morphology, syntax, lexicon), the script used (Arabic or Latin script of different European orthographic traditions), and the kind and degree of education of the person, who transcribed the text (a religious native speaker, a foreign ethnographer or linguist, etc.). That is the case because there has not been any systematic and institutionalized conventional Berber orthographic standard until very recently (see, e.g., Elmedlaoui 1999; Ameur et al. 2006).

3 Berber typological features

Unless indicated otherwise, examples given henceforth, generalizations made, and rules stated in this chapter will be drawn systematically from the Southern variety of Berber in Morocco, called *t-a-šlhiy-t* (Tashlhiyt) by its own speakers, who identify themselves as *i-šlhiy-n* (PL of *a-šlhiy*). For this restricted option, there are the following methodological reasons: (a) the concern with presenting a sample of homogeneous data belonging to the same system and state of language (*état de langue*), (b) the practical impossibility of presenting all the parametrical variations among the Berber group on all the points to be treated, (c) the fact that Tashlhiyt is the Berber dialect that the author masters the best in his capacity of a native speaker, but also (d) because it is the Berber variety which has been most completely described to date, especially on the phonological and morpho-syntactic levels.

3.1 Phonology

3.1.1 Phoneme inventory

The consonant and vowel inventory (not all consonants of which are proto-Berber phonemic segments) of the current Tashlhiyt Berber, including consonants introduced through recent loans, consists of the following:

*b, m, f, t, !t, d, !d, s, !s, z, !z, r, !r, l, !l, n, !n, š, !š, ž, !ž, k, k^w, g, g^w, q, q^w, χ, χ^w, γ, γ^w, ħ, ʕ, h, y, w, i, u, a*¹⁵

Schematically, the consonant inventory of Tashlhiyt Berber can be represented as follows (cf. also Kossmann and Stroemer 1997: 467):

	lab.	dent.	emph. dent.	post- alv.	vel.	lab. vel.	uvul.	lab. uvul.	phar.	glot.
stop		t	!t		k	k ^w	q	q ^w		
	b	d	!d		g	g ^w				
fric.	f	s	!s	š/!š	χ	χ ^w			ħ	
		z	!z	ž/!ž	ʁ	ʁ ^w			ʕ	
nas.	m	n								
trill		r	!r							
lat.		l	!l							
appr.				y		w				h

3.1.2 Emphasis

For Berber in general and Tashlhiyt in particular, the phonological feature commonly called “emphasis” consists of a secondary co-articulation carried out at the superior pharynx. In terms of the tongue-functional parts (anterior dorsum and posterior dorsum), it consists of a [+low, +back] pharyngealization; it is thus distinct from velarization (Elmedlaoui 1995a: 113-130, 157-177). As in Semitic, only stems of major lexical categories (nominal, verbal, and adjectival stems, as opposed to affixes, clitics, and different functional particles) may contain underlying emphatic segments in Tashlhiyt. But the emphatic feature spreads in this language all over the word, a process called emphaticization. Stems of emphaticized words all contain at least one coronal consonant. The emphatic feature is therefore analyzed as a segmental underlying feature that may cha-

15 As in Semitic, emphatics are restricted in Berber to coronals. Newly introduced emphatic segments in Tashlhiyt (!s, !t, !r, !š, !l, !n) have a graded frequency. The Tashlhiyt vowels /a/, /u/, /i/, which surface elsewhere as [æ], [u], and [i], respectively, acquire a [+back, +low] specification in an emphatic environment. In many loan words, whose input contains a [+back, +low] original vowel adjacent to a coronal consonant, this consonant is re-interpreted in the output of borrowing as an emphatic one, responsible for the vowel backing and lowering since emphasis spreads all over the word. For example: Fr. *pompe* > Tashlhiyt [bunbæ] vs. Fr. *'lampe* > Tashlhiyt [!lanba].

racterize a coronal consonantal phoneme of the stem and spreads on the surface all over the word domain, rather than as a supra-segmental melody associated with the word as a whole (Elmedlaoui 1985: 199-234; Dell and Elmedlaoui 2002: 58-63).

3.1.3 Gemination

Generally speaking, any consonant or glide in Berber may be either simple (or: “lax”) or geminate (or: “tense”). In Tashlhiyt, a geminate segment is longer in duration and more tense as to its articulatory energy (see Dell and Elmedlaoui 1997a; Ridouan 2003). In Tashlhiyt, a stem may count up to two geminates (*ggull* ‘to swear.PRF’), a word, up to three (*tt-ggammi* ‘to fail to find, to fail to do. IPF’) and gemination is not restricted to a class of consonants as in Hebrew for example, where in contexts of gemination (either morphological or by assimilation), /r/, pharyngeals, and the glottal stop give rise to a compensatory lengthening of the precedent vowel, instead of being themselves phonetically geminated (cf. Lowenstamm and Kaye 1985; Elmedlaoui 1988). Nor is gemination in Tashlhiyt restricted to a particular position in the word.¹⁶ It may have for origin the lexicon (*t-a-mda* ‘pond’ vs. *t-a-mdda* ‘brown buzzard’), morphology (*zdi* vs. *zddi* ‘to stick: PRF/IPF’) or phonological assimilation (*bab₁ n₂=l-firma₃* [bab₁l₂firma₃] ‘the owner₁ of₂ the farm₃’). When morphologically derived, geminated /!d/, /w/, and /ɣ/ surface as [!tt], [gg^w], and [qq], respectively. This last strengthening feature change, entailed by gemination in Tashlhiyt and in many other Berber variants, as well as the alternation of simple spirants and geminated stops in some northern Berber dialects (Tarifit and Kabyle), were put in parallel with the spirant/stop alternation that characterizes the *bgdkpt* group of segments in North-West Semitic (see Elmedlaoui 1993).¹⁷

Previous formal analyses show that gemination is more adequately represented in phonological notation by a singleton matrix of distinctive features,

16 This free occurrence of geminates in Tashlhiyt within the word is different, at least on the surface, from the case in many other Berber dialects, such Tarifit and Touareg, which, like Hebrew, exhibit a late surface word-final geminate reduction that takes place once any gemination (lexical or by assimilation) turns any eventual spirant into a stop (see fn. 36). While the stopping process of geminated spirants is anterior to word final geminate reduction in Touareg and Tarifit, it is posterior to it in Hebrew (‘izz-īm / ‘ēz ‘goat: PL./SG.’; ‘app-īm / ‘āp ‘nose: PL./SG.’; gabb-īm / gab ‘back: PL./SG.’; rakk-ā(h) / rak ‘smooth: F./M.’).

17 For the phonology of the *bgdkpt* class of segments in North-West and South-West Semitic, see Elmedlaoui 1993, Idsardi 1998, Kirchner 2000, Edzard 2001, among other references.

associated to two prosodic slots (Elmedlaoui 1985, 1988, 1993, Dell and Elmedlaoui 1996, 1997a, 1997b, 2002). According to Dell and Elmedlaoui 1996, segments associated to three successive prosodic slots are excluded in Tashlhiyt. This explains, for example, the fact that while the preposition *n=* 'of' assimilates optionally to the next sonorant (*m, n, l, r, w*) of its argument, giving rise to gemination (*alliy₁ n₂=l-kas₃* [alliyllkas] 'the bottom₁ of₂ the glass₃'), a sonorant that is already geminate blocks that assimilation (*a-žddig₁ n₂=lluz₃* [ažddignlluz] '<of₂> almond₃ trees₃ flower₁').

3.1.4 Labials and labialization

In Tashlhiyt, labials obey a co-occurrence constraint: on the one hand, a stem never contains more than one member of the set (*m, b, f*) and, on the other, the reciprocal and agentive homophonous prefixes *m-* are dissimilated into [n] when prefixed to a stem containing a labial consonant (*b, f, or m*). Thus: *m-sawal* [msawal] 'to speak one to another' vs. *m-xalaf* [nxalaf] 'to be mutually in disagreement'; *a-m-kraz* [amkraz] 'one who ploughs' (*√krz* 'to plough') vs. *a-m-ždam* [anždam] 'leprous' (*√ždm* 'to have leprosy'). This recalls the co-occurrence constraints in Semitic (cf. Elmedlaoui 1995b).¹⁸ In addition, the Tashlhiyt phonemic system includes a set of dorsal segments (velars or uvulars) with a secondary labial co-articulation. Being executed by the posterior dorsum of the tongue as its active articulator, the primary articulation of those segments is accompanied with a secondary labial rounding (Elmedlaoui 1985, 1995a). Historically, this consonantal labial feature is a recovery from a historically lost */u/ as is also the case with Ethiopic labialization under the impact of its Cushitic substratum (cf. Moscati et al. 1964: 38). Nevertheless, labialization in contemporary Tashlhiyt exhibits an alternation which is better handled when analyzed synchronically as a dissimilation process with respect to any labialized (i.e. rounded) vocoid (/u/ or /w/) within the stem. Thus, the following alternations: [a-snus] – [i-snas] 'young donkey/s' vs. [a-yyul] / [i-y^wyal] (synchronically underlying: /a-ɣ^wyul/ – /i-ɣ^wyal/) 'donkey/s' (the secondary labial feature [w] in itself is not involved as such in plural formation; cf. section 3.2.2.3 for plural formation).

18 In addition to the ban, within a Semitic morpheme, on more than one member of the set of primary labials (except for CC*m*; see Elmedlaoui 1995b), Akkadian, like Tashlhiyt and Touareg, dissimilates the prefixed formative *m-* into [n] when the root contains *b, f, or m* (Moscati et al. 1964: 81-82; McCarthy 1987; Edzard 1998).

A co-occurrence constraint on labials in particular, primary or secondary, is another parameter of the current dialectal variation in the Berber group: while the Touareg Berber variants generally do not have labiovelarized dorsals (k^w , g^w , etc.), Kabyle extends the secondary labio-velarization to primary labials as well, at least on the surface ([bb^w], [pp^w], and [mm^w]). And while the Tahaggart variant of the Touareg subgroup activates the *m*-prefix dissimilation (/m/ > [n]), when the stem contains another primary labial (*b*, *f*, *m*; cf. Prasse 1972: 55), the Kabyle Berber variant, the lexicon of which still conserves traces of this last dissimilation in agentive formation, does not apply any more the /m-/ dissimilation in the reciprocal verb. Even in Tashlhiyt, the young urban generation of speakers is no more sensitive to the constraint on labials, and applies that dissimilation process less systematically (see also fn. 46).

3.1.5 Harmony of sibilants (*s*, *z*, *š*, *ž*)

Since the appearance, among the Berber variants, of the first generation of hushing post-alveolar fricatives (*š*, *ž*), the current majority of which seems not to go back to Proto-Berber, a kind of confusion with hissing sibilants would have very soon ended in triggering a harmony of sibilants within the word. In a Tashlhiyt word (stem and affixes), sibilants should either be all hissing ones (i.e. [+anterior]: [*s* ... *s*] or [*z* ... *z*]), or all hushing ones (i.e. [–anterior]: [*š* ... *š*] or [*ž* ... *ž*]) and should also agree in voicing; i.e. they should be all voiced or all devoiced. Synchronically, this situation still systematically prevails in the Imdlawn Tashlhiyt Berber (cf. Elmedlaoui 1995a), a conservative Tashlhiyt sub-dialect. For instance, the causative of *nkr* ‘to stand up (intr.)’ is *ss-nkr* [*ssnkr*] ‘to raise up (tr.)’, while *kšm* ‘to enter’ yields [*šškšm*] (*ss-kšm*) ‘to introduce’; *nza* ‘to be sold’ yields *ss-nza* [*zznza*] ‘to sell’; *nžm* ‘to escape, to be saved’ yields *ss-nžm* [*žžnžm*] ‘to save, to rescue’.

Lexicalized in whole or in part, the product of this harmony is still detectable in many other Berber dialects, which no longer apply it systematically in synchronic derivation. Besides, it is precisely this constraint on co-occurrence of sibilants that has blocked, for a class of words, the diachronic process of velar anteriorization certain Berber dialects underwent, namely: $*g > ž$ and $*k > š$. The final product of this diachronic anteriorization for words containing already a sibilant in those dialects exhibits either a blocking of the full implementation of that historical change (i.e. $**k > *ç > š$) or a harmonization of the resulting sibilants (see the first lemma in Table 1). The Tashlhiyt words *ukr* ‘to steal’; *sksu* ‘couscous’; *i-smg* ‘slave’, for instance, correspond to the following Tarifit ones:

uṣr [uša:] (implementation); *sṣsu* [seṣsu] (blocking); *i-šmž* [išmež] (sibilants harmony).

Historically, Old Moroccan Arabic (OMA) has a predominantly Semitic lexicon with a partially Semitic morphology, all being inserted within a Berber phonological and syntactic grammar. OMA presents the same diagnosis as to its diachronic phonology on this last point of sibilants harmony in its relation with velar fronting.¹⁹ For stems lacking any hushing sibilant, the Semitic velar ***g* (represented by the letter *ḡīm* < ڭ > in CA) evolved through a diachronic fronting process which ended in /ž/ in OMA (via an intermediate affricate **/dʒ/*).²⁰ Thus, the Semitic roots \sqrt{gml} , \sqrt{gl} , $\sqrt{\theta lg}$ yield *žmal*, *žal*, *talž* ('camel', 'calf/heifer', 'snow', respectively) in OMA. But when the Semitic root contains a hissing sibilant (/s/ or /z/), the three following strategies apply in this diachronic process that yields the OMA surface forms:

- (i) Either the fronting process of the Semitic ***g* is blocked: CA *ḡazzār* vs. OMA *gzzar* 'butcher'; CA *ʿaḡūz* ²¹ 'old man/women' vs. OMA *ʿguz-a* (in some regions) 'old woman, mother-in-law'; or:
- (ii) The expected ž of the ***g*-fronting output is harmonized with the root's sibilant as to the features [± anterior]; e.g., Sem. \sqrt{zwg} 'two, couple' vs. OMA *žuž* 'two', *zuz-a* 'a couple'; CA *sarḡ* vs. OMA *šarž* in some regions, and /sərz/ in others 'saddle'; CA *ʿaḡūz* 'old woman' vs. OMA *ʿzuz-a* in some regions, or *ʿžuž-a* in some others 'old woman, mother-in-law', or finally:

19 On the Old Moroccan Arabic diachronic relationship with respect to Berber and Semitic, see Elmedlaoui 1998b, 2000, and 2011. By specifying an Old MA, we put aside the Modern Moroccan Arabic *koiné* now emerging, which is more and more influenced, from the 1950s up to now, by the generalization of modern school and public media. Nevertheless, even newly educated people continue more or less to apply sibilant harmony (e.g., MA *šamš* or *sams* 'sun' vs. *šams* in CA).

20 The process ***g* > **dʒ* has already been witnessed by the ancient grammarians of CA as a dialectal variation of their times (see Moscati et al. 1964: 38; Elmedlaoui 2011).

21 The pronunciation of the CA *ḡīm* / ڭ / (<***g*>), as described by the phonetician Ibn Ġinnī (10th century), corresponds in this grammarian's times to a palatal affricate (*murakkab*); but the fact, among others, that some Arabic words like *masḡid* 'mosque', *liḡām* 'bit' were integrated into Berber as loan words under the forms *ti-mzgid-a* and *a-lgamu*, respectively, strongly supports the assumption that Arabic-Berber contact goes back to a period where the Semitic ***g* was still articulated as a velar in the first Arabic variant that came into close sociolinguistic contact with Berber. The fact that Berber loans to Arabic, of the form /l-X/ (X, a stem; see sections 3.2.2.1-4) do not assimilate the determiner *l-* to the first consonant when this consonant is a *ḡīm* < ڭ >, as is the case with all coronals (*s-suq* 'market'; *d-din* 'religion' vs. *l-žnn-t* 'paradise'), also supports this assumption.

(iii) The historical intermediate output of $^{**}g$ -fronting (i.e. $d^{\check{z}}$) is dissimilated as to its strident feature (i.e. $^{**}g > *d^{\check{z}} > d$). Thus: CA ‘ağūz vs. OMA ‘duz-a (in some regions); CA ḡāza vs. OMA *daz* ‘to pass, to go by’ in most regions (but *gaz* in the Ghomara subdialect of MA); CA ḡazza vs. OMA *dazz* ‘to shear’; CA ḡasad ‘body’, OMA *ksd-a* (notice the regressive devoicing) ‘body, as opposed to head’.

The overall frequency of *g* in the OMA lexicon also derives, in part, from another shift of the Semitic velar $*q > g_2$ (e.g., Sem. \sqrt{qmh} vs. OMA *gəmh* ‘wheat’; CA *qidr* vs. MA *gədr-a* ‘cooking pot’) and, in part, from cases where the Semitic $^{**}g$ -fronting is blocked by the presence of a hissing sibilant in the root ($^{**}g_1 > g$).²²

3.1.6 Regressive devoicing

In the above mentioned Imdlawn Tashlhiyt Berber subdialect (ITB in short), regressive devoicing among adjacent obstruents is obligatory inside the stem and optional through affix boundaries. For example: *!zda* ‘to weave’ vs. *a-!stta* (< /a-!zdda/) ‘weaving, loom’; *biks* (< /bigs/) ‘to put a belt around’ vs. *a-bggas* (< /a-bggas/) ‘a belt’. A comparison between ITB and two other Berber dialects, which still have schwas or old full vowels in places where this last material is lost in ITB, gives us an idea of the diachronic role that this devoicing process played in the Berber dialectal variation of consonants.

Table 2: Regressive devoicing in Berber

Tahaggart (Touareg)	Tarifit (Nador)	Tashlhiyt	Gloss
<i>éɣəf / iɣəfaw-n</i>		<i>ixf / ixfaw-n</i>	‘head / s’
<i>éɣəs / iɣəs-ân</i>	<i>i-ɣəs / i-xs-an</i>	<i>i-xss / i-xs-an</i>	‘bone / s’
	<i>yis / i-çs-an</i>	<i>a-yyis / i-ys-an</i>	‘horse / s’
	<i>uday / t-udaš-t</i>	<i>uday / t-uday-t</i>	‘Jew / s’
	<i>zzəšt</i>	<i>zziyt</i>	‘oil’
	<i>byəs</i>	<i>biks</i>	‘to put a belt around’
	<i>a-bəggas</i>	<i>a-bggas</i>	‘belt’

22 A comprehensive approach to the evolution of the Semitic $*g$ and $*q$ in Moroccan Arabic in the light of the Berber substratum of this dialect can be found in Elmedlaoui 2011. The paper illustrates the extent to which the fact of considering local linguistic substrata in examining an Arabic dialect may provide precise and valuable clues about the Semitic diachrony in general.

An identical devoicing process, under its synchronic current form in Tarifit where glides /w/, and /y/(<*g) are also affected by devoicing, yielding the labial spirant [ɸ], and the coronal [š] respectively, has been the diachronic source of a large amount of the current š-material in the Tashlhiyt lexicon itself. This material would have resulted in part from a remote *ž/y (< **g) devoicing process diachronically anterior to the Semitic **g-fronting. Examples: Figuig *aytal* vs. ITB: *a-štal* ‘toddler’; ITB *t-a-brruy-t* ‘shell debris’ vs. *t-a-brruš-t* ‘small-pox (mark)’; Figuig *t-a-!yri-t* vs. ITB *t-a-!yruš-t*, *t-a-!kuray-t* ‘small stick’.

3.1.7 Syllabification

One of the remarkable phonological properties of current Tashlhiyt Berber, which lost a large amount the Proto-Berber vocalism even in the form of schwa (see Galand 2002: 110-111), is that any segment may serve as a syllable nucleus (Elmedlaoui 1985, Dell and Elmedlaoui 1985, 1988, 2002). In principle, the permitted number of syllables formed only by consonants in an utterance is unlimited. The verbal complex *t-rgl=tn-t* [trgltn̩t] (3SG.F-lock.PRF=ACC.them-F) ‘she locked them (F)’ consists of three syllables, which we separate with dots (.tr.gl.tnt.) and whose respective nuclei are *r*, *l*, and *n*. The syllables’ onsets in the three syllables are *t* and *g* for the first and the second respectively, and the first *t* for the third syllable. In another verbal complex, such as *t-ntl=tn-t* (3SG.F-hide.PRF=ACCJ.them-F) ‘she hid them (F)’, identical to the former one in its morpho-syntax and its syllabification make up (.tn.tl.tnt.), the coronal occlusion is maintained steady from the beginning to the end of the word. The first and the third *t* have a nasal explosion which results, without transition, in the following *n*-articulation (as in English [tn] in *button*), whereas the second *t* has a lateral explosion which results, without transition, in the following *l*-articulation (as in English [tl] in *bottle*).

While the first two syllables in both examples have the prosodic value of CV, i.e. they are open/light mono-moraic (1 μ) syllables, the third is a heavy bi-moraic one (2 $\mu\mu$), closed by a coda like in a conventional CVC string. In Tashlhiyt poetic meter, which is quantitative, the prosody of the two previous syllabified words [tr.gl.tnt.] and [tn.tl.tnt.] is equivalent to that of the word *t-a-ḥanu-t* [ta.ḥa.nut.] ‘room, shop’.²³ In Tashlhiyt, a geminate may be tautosylla-

23 The loss of the Semitic vocalism in MA (see Elmedlaoui 1998b, 2000) resulted in a system of syllabification and poetic meter similar to the one at work in Tashlhiyt Berber (see Dell and Elmedlaoui 2002).

bic: *t-izzwa* [tizz.wa] ‘bees’; *i-!mggrad* [i.mgg.rad.] ‘necks’), *t-!akk^w-in* [tak^w.zin] ‘afternoon’. The syllables [.tizz.], [.mgg.] and [.tak^w.] are heavy, with 2 moras $\mu\mu$ each. A whole geminate in coda position counts as only one mora (the nucleus counting as another), whether the nucleus is a vowel as in [.tizz.] or a consonant as in the second syllable [.brzz.] in *t-i-brzzwa* [ti.brzz.wa] ‘dry mint’. Finally, the first half of a coda-onset heterosyllabic geminate is prosodically ambiguous: it may or may not count as a second mora after the nucleus (see fn. 47 and Table 10). That is the case with the first syllables in *t-azzi-t* [taz.zit.] ‘dagger’ and the second syllable in *i-frkk-an* [i.frk.kan.] ‘rinds, hulls’ (see Dell and Elmedlaoui 1992, 2002, 2008).

The Tashlhiyt syllabification system and prosody, on which poetic meter is based in this language (see Dell and Elmedlaoui 1997b, 2007, 2008), is governed by the following constraints and principles (see Dell and Elmedlaoui 2002):

- Priority to constitute syllable nuclei in a string of segments is given to the most sonorant segments according to the following sonority scale, where >> means “more sonorous than”, and where HV indicates the high vocoids /U/ and /I/, realized respectively either as [u, i] or as [w, y], depending on their segmental context: *a* >> HV >> liquids >> nasals >> fricatives >> stops;
- onset-less syllables are excluded within an utterance, except in post-pausal position;
- the syllable’s onset consists of a single prosodic position, i.e. a simple segment or the second half of a geminate;
- the coda may count two prosodic positions only when both positions belong to a geminate;
- the two prosodic positions of a geminate may be either tautosyllabic or heterosyllabic, but can never be syllabified as an onset-nucleus “semi-syllable” prosodic constituent.

Those are the main principles according to which segments are singled out and grouped into light syllables (L = one mora: 1μ) or heavy syllables (H = two moras: 2μ), a grouping that has proved to be relevant to many derivational processes in Tashlhiyt (cf. Dell and Elmedlaoui 2002: 115-134). The same principles are at work in parsing strings of segments into such light and heavy syllables that build up well-formed poetic lines in Tashlhiyt poetic meter. A syl-

bic scansion of lines is given as an illustration in Table 10 (see Dell and Elmedlaoui 1997b, 2007, 2008 for details).²⁴

3.2. Morphology

3.2.1 Verbal Morphology

In Tashlhiyt, the verb conjugates according to person, number, and gender (PNG). The PNG features agreement proceeds through a system of affixation (prefixes and/or suffixes). The following table gives the list of the PNG affixes, direct object and indirect object (dative) pronouns, and prepositional pronouns (PPro) based on the preposition *d=* ‘with (accompaniment)’ as an example of a PPro.

Table 3:

Pronominal suffixes: independent pronoun, direct object, indirect object, and prepositional pronouns after *d=*

PNG features	PNG affixes*	Independent pronoun	Direct object	Indirect object	PPro. <i>d=</i> ‘with’
1SG	<i>V-x</i>	<i>nkki(n)</i>	<i>=iyi</i>	<i>=iyi</i>	<i>=did-i</i>
2SG.M	<i>t-V-t</i>	<i>kiiyi(n)</i>	<i>=k</i>	<i>=ak</i>	<i>=di-k</i>
2SG.F	<i>t-V-t</i>	<i>kmmi(n)</i>	<i>=km</i>	<i>=am</i>	<i>=di-m</i>
3SG.M	<i>i/y-V</i>	<i>ntta(n)</i>	<i>=t</i>	<i>=as</i>	<i>=di-s</i>
3SG.F	<i>t-V</i>	<i>ntta-t</i>	<i>=tt</i>	<i>=as</i>	<i>=di-s</i>
1PL.M	<i>n-V</i>	<i>nk^wni(n)</i>	<i>=a(n)x</i>	<i>=a(n)x</i>	<i>=di-(t)nx</i>
1PL.F	<i>n-V</i>	<i>nk^wnnin-t(i)</i>	<i>=a(n)x</i>	<i>=a(n)x</i>	<i>=di-(t)nx</i>
2PL.M	<i>t-V-m</i>	<i>k^wnni(n)</i>	<i>=k^wn</i>	<i>=awn</i>	<i>=di-(t)un</i>
2PL.F	<i>t-V-m-t</i>	<i>k^wnnin-t(i)</i>	<i>=k^wn-t</i>	<i>=awn-t</i>	<i>=di-(t)un-t</i>
3PL.M	<i>V-n</i>	<i>nttni(n)/nitni(n)</i>	<i>=tn</i>	<i>=as-n</i>	<i>=di-(t)-s-n</i>
3PL.F	<i>V-n-t</i>	<i>nttn-ti(n)/nitn-tin</i>	<i>=tn-t</i>	<i>=as-n-t</i>	<i>=di-(t)s-n-t</i>

* V: a given verbal form; see Table 4.

24 Concerning the syllabic parsing (including syllabic consonants) and the relevance of light vs. heavy syllables, Moroccan Arabic meter is quite similar to Tashlhiyt’s (cf. Dell and Elmedlaoui 2002: § 8); it only differs as to its set of feet and their syntax (Elmedlaoui, in preparation). A preliminary examination of Tarifit meter compared to the Tashlhiyt one is found in Elmedlaoui 2006c.

3.2.1.1 Tense, aspect, and mood

As in Semitic, the main morphological opposition within the Berber verbal system in general is basically an opposition of aspect: perfect vs. imperfect. In the Tashlhiyt variant for example, appropriate morpho-syntactic constructions ensure that the perfect aspect form denotes at the same time (by redundancy) the temporal value of past tense, while the imperfect (or “intensive”) aspect denotes likewise the temporal value of present continuous or usual tense. According to aspect and mood features, morpho-syntactically determined for a verb in a sentence, the verbal stem in Tashlhiyt exhibits the four forms I – IV in Table 4 below. Some classes of verbs have the same form for I and III, and others have even the same for I, II, and III.

Table 4: Verbal forms according to tense-aspect-mood features in Tashlhiyt

(I) Prf. aff. [+ indicative]	(II) Prf. neg. [+ indicative]	(III) Prf. [– indicative]	(IV) Ipf. [± indicative]	Gloss
a. <i>krz</i>	<i>kr(i)z</i>	<i>krz</i>	<i>kkrz</i>	‘to plough’
b. <i>nkr</i>	<i>nk(i)r</i>	<i>nkr</i>	<i>nkkr</i>	‘to stand up’
c. <i>hsa</i>	<i>hsi</i>	<i>hsu</i>	<i>hssu</i>	‘to memorize’
d. <i>skr</i>	<i>sk(i)r</i>	<i>skr</i>	<i>skar</i>	‘to do’
e. <i>zri</i>	<i>zri</i>	<i>zri</i>	<i>zray</i>	‘to pass’
f. <i>xdm</i>	<i>xd(i)m</i>	<i>xdm</i>	<i>tt-xdam</i>	‘to work’
g. <i>gn</i>	<i>g(i)n</i>	<i>gn</i>	<i>ggan</i>	‘to sleep’
h. <i>sya</i>	<i>syi</i>	<i>sy</i>	<i>ssay</i>	‘to buy’
i. <i>swa</i>	<i>swi</i>	<i>su</i>	<i>ssa</i>	‘to drink’
j. <i>griwl</i>	<i>griwl</i>	<i>griwl</i>	<i>tt-griwil</i>	‘to turn’
k. <i>gnugi</i>	<i>gnugi</i>	<i>gnugi</i>	<i>tt-gnuguy</i>	‘to fall down’
l. <i>mun</i>	<i>mun</i>	<i>mun</i>	<i>tt-mun</i>	‘accompany’
m. <i>ttu</i>	<i>ttu</i>	<i>ttu</i>	<i>tt-ttu [tt’ttu]</i>	‘to forget’
n. <i>uru</i>	<i>uru</i>	<i>aru</i>	<i>tt-aru</i>	‘to give birth’
o. <i>uza</i>	<i>uzi</i>	<i>azu</i>	<i>tt-azu</i>	‘to skin’
p. <i>usi</i>	<i>usi</i>	<i>asi</i>	<i>tt-asi</i>	‘to carry’
q. <i>urs</i>	<i>ur(i)s</i>	<i>ars</i>	<i>tt-ars</i>	‘to sweep’

According to Lionel Galand’s translated terminology, these forms are called, in the above order: (I) perfect (French *accompli*), (II) negative perfect (French *accompli négatif*), (III) aorist (French *aoriste*), and (IV) imperfect (French *inaccompli*). Table 4 shows that, in Tashlhiyt, the perfect aspect combined with a [–indicati-

ve] mood value has no special flexional form for negation. It also shows that the imperfect form does not change at all, neither for negation nor for mood. Certain other variants of Berber (e.g., Figuig and Tarifit) do, however, show special forms for the negative imperfect (cf. Kossmann 1989). Dell and Elmedlaoui (1991) formulate descriptive generalizations about the regular processes that derive the four tense-aspect-mood forms in Tashlhiyt depending on the input of verb classes (see also Dell and Elmedlaoui 2010). Among those processes are the following main ones in Tashliyt (cf. Table 4):

- geminating C_1 or C_2 in form IV (as in a, b, c, g);²⁵
- adding a *tt*-prefix in form IV (as in f., j.–q.) together with the insertion of a vowel before the last consonant; this vowel is *a* by default (as in IV: d.–h.) or, otherwise, a copy of an already existing vowel, if any, which is to the left (as in IV: j., k.); this copying process takes place only with form-I stems that end with a string CX and have a vowel somewhere to the left of that string (X being a consonant or a vocoid /i/, which surfaces as [y] after the vowel insertion, in accordance with syllabification principles);
- changing any *initial* high vowel (*u* or *i*) of form-I into *a* in forms III and IV;
- changing any *final* low vowel *a* of form I into a round high one *u* in forms III and IV.

The system of vowel ablaut that takes place at the verb-final position depending on the tense-aspect-mood features is one of the important parameters of the Berber dialectal variation (Kossmann 1999). Negation is expressed by the preverbal particle *ur* in Tashlhiyt (*ul* in some other dialects, and [war] in Tarifit), while imperfect aspect is introduced, in the indicative mood, by the preverbal particle *a(r)* or *da* (*la* in some other dialects, and *qa* in Tarifit). According to well defined morpho-syntactic contexts, the particle *a(r)* may be totally deleted, or just surfaces phonetically as [a] (see Dell and Elmedlaoui 1991).

The [–indicative] mood forms are triggered in Tashlhiyt (i) by the jussive preverbal conjunction *a(d)*,²⁶ (ii) by the injunctive mood suffix *-iyt*,²⁷ (iii) in

25 Concerning the syllabification conditions that determine which C (C_1 or C_2) is to be geminated, see Elmedlaoui 1985: 50-53; Dell and Elmedlaoui 1988; 2010.

26 On the syntax of the jussive preverbal element *a(d)* as a complement clause conjunction (*ad*₁ that should not be confused with its homophone *ad*₂, which is a determiner) see Elmedlaoui 1999: 59-61.

consecutive or conditional coordinated clauses, i.e. Verb-X, *and/then* Verb-Z; *if* Verb-X, *then* Verb-Z (see examples below, and Dell and Elmedlaoui 1991 for details).

Given the fact that Tashlhiyt has no conjunction for clause coordination, the use of the [–indicative] mood in the coordinate clause is, in a sense, equivalent in this language to the use of the conjunction *fa-* (as opposed to *wa-*) in CA, or the use of the conversive *wāw* in Biblical Hebrew (cf., e.g., Kautzsch 1910: § 49).

(1) Examples of verbal coordination in Tashlhiyt

<i>i-šša, i-swa</i>	‘he ate, he drank, ...’
<i>i-swa, i-šša</i>	‘he drank, he ate, ...’
<i>i-šša i-su</i>	‘he ate <and <i>then</i> > he drank (aorist)’
<i>i-swa i-šš</i>	‘he drank <and <i>then</i> > he ate (aorist)’
<i>iḡ i-šša, i-su a-safar</i>	‘if he ate, <let him <i>then</i> > drink (aorist) medicine’

With no preverbal or affixed element, the [–indicative] mood forms are the ones used to express direct imperative mood. In Tashlhiyt, the imperative systematically distinguishes the two aspectual values (*sawl!* ‘speak!’ vs. *sawal!* ‘be speaking / speak habitually!’).²⁸ In this form, it also serves as an infinitive: *y-zwar₁ swingm₂ sawl₃* (3SG-precede.IPF think.INF speak.INF) ‘to think₂ precedes₁ to speak₃’. The imperative may only have verbal suffixes in both perfective and imperfective aspect: /V-Ø/ (SG), /V-at/ (PL.M), and /V-amt/ (PL.F), e.g., *sy* ‘buy! (SG), *ssay* ‘buy habitually! (SG), *sy-at* buy! (PL.M), *ssayat* ‘buy habitually! (PL.M), *sy-amt* buy! (PL.F), *ssay-amt* buy habitually! (PL.F).

As the negative injunction is introduced by the infinitive/jussive preverbal particle *a(d)* (i.e. the verb is then in a [–indicative] mood context), the negative perfect stem form is not distinct from the form traditionally called aorist (form-III in Table 4). Thus, *ur t-swi-t* ‘you have not drunk’ ([+indicative] context) vs. *ad ur t-su-t* (prf.) ‘don’t drink!’; *ad ur t-ssa-t* (IPF) ‘do not be drinking!’ or ‘do not drink habitually’ ([–indicative] context).

Depending on the morphosyntactic context, the [–indicative] mood may express injunctive/jussive or infinitive values, and the particle *a(d)*, which intro-

27 The injunctive verb suffix *-iyt* in Tashlhiyt is equivalent to the English verb *let* in its assumptive use or to indicate uncertainty: *y₁-ili₂-iyt₃* ‘let₃ it₁ be₂!’ (existential); *i₁-g₂-iyt₃* ‘let₃ it₁ be₂!’ (state).

28 Only a very limited set of verbs have only the imperfect aspect in Tashlhiyt, for example *alla* ‘be crying’; *tt-lli* ‘be wandering’.

duces it in some contexts, is equivalent, in completive clauses, to the English infinitive particle 'to', the CA complementizer *'an*, or the complementizer *la-* in the Hebrew bound infinitive (cf. Alvestad and Edzard 2009: 44-47). As the case may be, the future is rendered, according to the semantically targeted aspectual value (perfect or imperfect), by one of the forms III or IV of Table 4, introduced by the modal particle *r-a(d)*. This particle consists of the complement clause conjunction *a(d)*, preceded by the modal auxiliary *r-* (historically stemming from *ra* 'to will'). To illustrate this point, the examples below in Tables 5a and 5b use the verbs (c., i., s.) of Table 4. The label [cont./us.] indicates the temporal values [+continuous] or [+usually] that may be assigned to the imperfect form according to context.

Table 5:

Verbal inflection in Tashlhiyt according to tense, aspect, mood, and negation

PRF (I), (II)	IPF (IV) (insensitive to negation)
<i>y-urs</i> 'he swept'	<i>ar i-tt-ars</i> 'he sweeps [cont./habit.]'
<i>ur i-ḥsi</i> 'he didn't memorize'	<i>ur a<r> i-ḥssu</i> 'he doesn't memorize [+habit.]'
AOR (III): prf [–indicative] (insensitive to negation)	IPF (IV) (insensitive to mood and negation)
<i>y-ars-iyt</i> 'let him sweep'	<i>i-tt-ars-iyt</i> 'let him sweep [cont./habit.]'
<i>ad ur t-ars-t</i> 'don't sweep!'	<i>ad ur tt-ars-t</i> 'don't sweep! [cont./habit.]'
<i>i-swa y-ars</i>	<i>i-swa ar i-tt-ars</i>
'he drank <and then> he swept'	'he drank <and then> [undertook] sweeping'
<i>iy i-swa y-ars!</i>	<i>iy i-swa ar i-tt-ars</i>
'if he drank, let him sweep'	'if he drank, <let him> [start] sweeping!'
<i>i-!zdar a<d> y-ḥsu</i>	<i>i-!zdar a<d> y-ḥssu</i>
'he could memorize'	'he could memorize [cont./habit.]'
<i>ad ur t-ḥsu-t</i>	<i>ad ur t-ḥssu-t</i>
'don't memorize!'	'don't memorize [cont./habit.]'
<i>ra y-ḥsu</i>	<i>ra y-ḥssu</i>
'he will memorize'	'he will memorize [cont./habit.]'
<i>ur ra y-ḥsu</i>	<i>ur ra y-ḥssu</i>
'he will not memorize'	'he will not be memorizing [cont./habit.]'

Although the whole Tashlhiyt verbal system is built principally on an aspectual basis, only the [\pm perfect] dimension of aspect is relevant. Another essential aspectual dimension, the *state* vs. *event* dimension, is almost absent. For

example the verbs *tahl* and *!udn* mean ‘to be married’ or ‘to get married’ and ‘to be sick’ or ‘to fall sick’, respectively, according to contextual pragmatic and special morpho-syntactic clues.

3.2.1.2 Transitive, intransitive, and middle verbs

In Tashlhiyt, a primary verbal base is transitive (*usi* ‘to take’), intransitive (*gn* ‘to sleep’), or middle (*dl* ‘to cover, to be covered’). In deriving secondary forms, a semantically eligible verb may show several forms: an active form, a medio-passive form, a causative form, and a reciprocal form (see Dell and Elmedlaoui 1991). Like the Akkadian prefix *ša-* (Gelb 1969: 201) and the Hebrew prefix *ši-* (in residual *šip’el* forms), the causative prefix in Berber is a sibilant *s-*.²⁹ The causative and reciprocal affixes (*s-* and *m-*, respectively) are mutually combinable with each other in a recursive way (E-F in Table 6), and in this last case, the left-most prefix assigns, as a head, its own voice value to the whole derived secondary verbal form. The causative affix *s-* is also combinable with the medio-passive one *ttu-*, this last one being the head (G/3, 4 in Table 6):

Table 6:

Secondary verbal forms in Tashlhiyt

		Caus.	Med.	Recip.	Caus./Recip.	Recip./Caus.	Med./Caus.
1	<i>krz</i>		<i>tt-krz</i> <i>ttu-kraz</i>				
2	<i>sawl</i>			<i>m-sawl</i> <i>m-sawal</i>	<i>s-m-sawl</i> <i>s-m-sawal</i>	<i>n-s-m-sawl</i> <i>n-s-m-sawal</i>	
3	<i>nkr</i>	<i>ss-nkr</i>				<i>m-s-nkr</i> <i>m-s-ankar</i>	<i>ttu-s-nkr</i> <i>ttu-s-nkar</i>
4	<i>grawl</i>	<i>s-grawl</i>				<i>m-s-grawl</i> <i>m-s-grawal</i>	<i>ttu-s-grawl</i> <i>ttu-s-grawal</i>
	A	B	C	D	E	F	G

A/1 ‘to plough’ – A/2 ‘to speak’ – A/3 ‘to wake up’ – A/4 ‘to turn round’ – B/3 ‘to wake up: tr.’ – B/4 ‘to turn round: tr.’ – C/1 ‘to be ploughed’ – D/2 ‘to speak to one another’ – E/2 ‘make to speak to one another’ – F/2 ‘to make themselves speak to one another’ – F/3 ‘to wake one another up’ – F/4 ‘to turn one another round’ – G/3 ‘to be woken up’.

29 Gelb (1969: 201) derives the Akkadian causative prefix *ša-* diachronically from a 3SG.M object pronoun. In Berber, this corresponds to the third object pronoun =*t* and to the prepositional pronoun =*s* (see Table 3 above).

Besides being augmented with the prefixes *tt(x)-* and *m(m)-*, medio-passive and reciprocal, which never combine, appear each under two forms: (i) a *minimal form* where the basic stem of derivation (form I in Table 4) remains unchanged, and a *typified form* with vocalic insertion: /XvYaZ/. The medio-passive for *krz* ‘to plough’, for instance, is either *tt-krz* (minimal form), *ttu-kraz* or *ttyaw-kraz* (typified forms);³⁰ and the reciprocal for *sawl* ‘to speak’ is either *m-sawl* (minimal form) or *m-sawal* (typified form). While the typified forms of these two derived secondary bases are in use with both aspectual values according to the morphosyntactic context, the minimal forms are restricted to the perfect aspect only. The prefixes *m-* (reciprocal) and *s-* (causative) are subject to a simplex/ geminate alternation which depends on prosodic properties of the derived whole form (compare B/3 with B/4 in Table 6).³¹ The affixed material in the typified medio-passive exhibits a range of variation through the Berber dialects (*ttu-*, *ttwa-*, *ttway-*, *ttyaw-*). As the reciprocal can only be derived from transitive verbs, the reciprocal voice conveys also a pronominal value; hence, some true pronominals in Tashlhiyt are prefixed with a nasal. For example: *itti* ‘to move: intr.’ vs. *mm-itti* ‘to move onself’; *gadda* ‘to be even/equal’ vs. *s-gadda* ‘to make even/equal’, *m-gadda* = *n-gadda* ‘to become/to make onself even/equal’.³²

In Tashlhiyt, when the semantic agent is syntactically relativized, the verb takes a morphological form traditionally called the “participle”.³³ The Tashlhiyt participial form, prefixed by *i-* and suffixed by *-n*, optionally agrees in number; but only in the plural does it show opposition of gender. Forms morphologically marked for number lack the prefix *i-*. Examples are given in below in Table 7:

30 While the Berber medio-passive prefix *tt-* recalls the prefix *(hi)t-* of *(hi)t-pa‘el* in Hebrew and the prefix *ta-* of *ta-fa‘ala* in CA, the vocalic melody /ua/ of the typified medio-passive form recalls the /ua/ melody of the passive forms *pu‘al* and *huf‘al* in Hebrew. Another class of non-prefixed mediopassive verbs in Tashlhiyt has the vocalic melody /au/ (*ss-ird* ‘to wash’ vs. *arud* ‘to be washed’; *ss-ukf* ‘to uproot’ vs. *akuf* ‘to be uprooted’; *ss-iff* ‘to sift’ vs. *afuf* ‘to be sifted’ (see Dell and Elmedlaoui 1991: 98). This /au/-melody recalls that of the passive participle *pā‘ul* in Hebrew and *maf‘ul* in CA.

31 For the phonology of the causative prefix *s-/ss-* alternation in Tashlhiyt, see Dell and Elmedlaoui 2002: 124.

32 A class of “mono-argument” verbs in Tashlhiyt is characterized by an initial geminate alternation (*!ddurdr* ‘to become deaf’ vs. *s-!durdr* ‘to deafen’; *bbaqqi* ‘to explode’ vs. *s-baqqi* ‘to make explode’). One wonders whether gemination in this class is not diachronically the result of an old nasal assimilation, similar to that of the nasal of *niḫ‘al* / *yippā‘el* in Hebrew.

33 For the participial formation in Tashlhiyt, see Dell and Elmedlaoui 1989: 81-82.

Table 7: Participial forms of *hsa* ‘to memorize’

Columns of Table 4	Form unmarked for number	PL.M	PL.F
I	<i>i-hsa-n</i>	<i>i-hsa-n ; hsa-n-in</i>	<i>i-hsa-n ; hsa-n-in-t</i>
II	<i>i-hsi-n</i>	<i>i-hsi-n ; hsi-n-in</i>	<i>i-hsi-n ; hsi-n-in-t</i>
IV	<i>i-hssu-n</i>	<i>i-hssu-n ; hssu-n-in</i>	<i>i-hssu-n ; hssu-n-in-t</i>

As evidenced in Table 7, the verb in Tashlhiyt may have a participial form only in [+indicative] morphosyntactic contexts. This is different from the case in the Kabyle dialect for example, where the participial form appears also next to the injunctive preverbal element *a(d)*. Compare the Tashlhiyt cleft-sentence *t-aka-t₁ a₂ rad₃=t₄ i-šš₅* ‘<it is> fire₁ that₂ will₃ consume₅ it₄’ with its equivalent in Kabyle: *d’t-iməss₁ a₂ ra₃=t₄ y-tt^š-ən₅* (PTCP)’. Furthermore, in addition to the *-n*-suffixed common participial form (/i-X-ən/), Kabyle also shows an *n*-prefixed one (/nə-X/). For example: *win₁ ur₂ nə-zmir₃ i=*₄ *t-nəggas₅* ‘the [one] who₁ does not₂ resist₃ to₄ pains₅’.³⁴

Being derivable from primary verbal bases as well as from augmented or secondary ones (causative, medio-passive, reciprocal, etc.), the participial form inherits, in every case, the syntactical features [\pm transitive] of its immediate derivational verb input. Thus, we have: *bidd* ‘to stand up (intr.)’, *i-bidd-n* ‘<who/which/that> stood up (intr.)’ vs. *s-bidd* ‘to raise up (tr.)’, *i-s-bidd₁ a-satur₂* ‘he raised up₁ the beam₂’; *a-rgaz₁ i-s-bidd-n₂ a-satur₃* ‘the man₁ <who> raised up₂ the beam₃’.

3.2.2 Nominal morphology

3.2.2.1 Gender

In Tashlhiyt Berber, a nominal basic form has the shape /v(X)/, where the variable X is a cluster of segments starting with a consonant (including /w/ and /y/) and an initial vowel. This vowel is liable to be deleted in the construct state (CS). The noun is morphologically marked for gender, number, and state. There are two morphological genders: masculine /vX/ vs. feminine /t-vX(-t)/. These two morphological categories correspond in general to the two biological sexes (*a-yyul* ‘donkey (M)’ vs. *t-a-yyul-t* ‘ass (F)’); but idiosyncrasies reflecting

34 As quoted by Galand (2000: 197) with reservations, Prasse (1973: 12) supposes, rightly I think, that the negative particle *ur* is a conjugated auxiliary in such cases (i.e. Kabyle and Touareg), hence its participial form *ur-ən*. This recalls the functioning of CA *laysa* and the Hebrew *’ēn*.

similar anthropo-cultural features as those of Semitic on this point are not lacking among the inanimate and abstract nouns, e.g., *ayyur* 'moon (M)', *a-ħssu* 'memorization (F)' vs. *t-afuk-t* 'sun (F)', *t-i-yri* 'reading (F)'.

Besides the basic distribution of gender features in the lexicon, the masculine form (i.e. the one without *t*-affixation) is also used, through a regular morphological derivation, to assign an expressive semantic value of *augmentative* to any lexically feminine name (*t-amar-t* 'beard:F' – *amar* 'huge beard'). The feminine form (i.e. the one with *t*...-*t* affixation) is also used through regular derivation to assign an expressive diminutive or depreciative value to a lexically masculine noun (*iyil* 'arm:M' > *t-iyil-t* 'small arm:F'; *a-rgaz* 'man' vs. *t-a-rgaz-t* 'petty man'). As in Arabic, the feminine form is also used to derive an individuating form from a collective noun (*argan* 'argan trees (collective)' vs. *t-argan-t* 'an argan tree').

As the above examples show, *t*-affixation (prefix and/or suffix) is the mark of the *morphological* feminine gender. Disregarding affix boundaries, let us adopt the following conventions in order to formulate some descriptive generalizations later: "X": a string of segments; "v": a vowel; "C": a consonant other than *t*; and #: a word boundary. Generalizations are as follows: (i) in the singular, the feminine form of the native nominal stock in the lexicon is either /#tXt#/ (*t-argan-t* 'an argan tree') or /#tXv#/ (*t-a-rga* 'waterway'); (ii) for the second of these two forms, "v" is never *u*; (iii) the form with full affixation, /#tXt#/, is the only possible one for the derived feminine, i.e. the one corresponding to a biological masculine gender with the same lexical entry (*a-yyul* vs. *t-a-yyul-t* 'donkey' vs. 'ass'),³⁵ or the derived one with a diminutive or individuating value; (iv) except for Old Berber (still attested in some toponyms such as *mlil-t* 'Melilla', *mrir-t* 'Mrirt'), the form /#XCt#/ (i.e. without *t*-prefixation) is restricted to the feminine cardinal numeral adjectives *smmus* 'five.M' vs. *smmus-t* 'five-F') and feminine loans borrowed from MA (*l-mdin-t* 'city' < MA *l-mdina* (*mdin-t* in the CS)); (v) the form /#(t)XC#/ does not exist as a feminine singular.³⁶

35 As in the Semitic languages, for which gender is relevant for syntactic agreement, Berber has a class of nouns whose biological masculine and feminine forms do not share the same lexical entry (CA *ħimār* 'donkey' vs. *ʾatān* 'ass'; Tashlhiyt *i-zimmr* 'sheep' vs. *t-a-hray-t* = *t-ili* 'ewe'). The difference from Semitic is that in Berber, the feminine form is always morphologically marked by *t*-affixation.

36 Some Touareg Berber dialects seem to exhibit such feminine forms, but only on the surface: according to Prasse (1972: 41, 49–50), the feminine suffix *-t* is in fact systematically assimila-

Besides the “standard” old nominal singular forms in Berber, viz. /*(v)X*/ in the masculine and /*t-vX(-t)*/ in the feminine (*v*: vowel; *X*: stem), Tashlhiyt Berber also developed a new nominal form through massive borrowing from Arabic, i.e. the form /*l-X*/ in the masculine and /*l-X-t*/ in the feminine. The prefixed *l-* in theses forms assimilates systematically to any following coronal except *ž*, e.g., *l-mut* ‘death’ vs. *d-duni-t* ‘world, especially: “This World”’ vs. *l-žnn-t* ‘Paradise’).³⁷ This new form is no longer restricted to words that a specialist could recognize as loans. Thus for example: *hrš* ‘to fall sick, to be sick’ yields *l-hrš-an* ‘sickness’ by nominalization (also: *!rmi* ‘to get tired, to be tired’ > *!r-rmmuy-t* ‘tiredness’; *s-ru-t* ‘to thresh’ > *r-rwa* ‘threshing’). This class of loan words is insensitive to construct state inflection (see next section), and it takes an Arabic loan morphological form in the plural as well (*l-žnn-t* / *l-žnn-at* ‘paradise/s’).

3.2.2.2 State (case)

State (or rather: case) is a morpho-syntactic category in Berber nominal morphology with two varieties: free state (FS) (independent form) vs. construct state (CS) (dependent form), sometimes also called “absolute state” vs. “bound state”. From a Semitist’s perspective, the term “state” corresponds more or less to the concept “case” (cf. Kossmann 2007: 431). Indeed, the Berberologist term “construct state” refers to the syntactic position of a noun as an argument (entailing case inflection), and not to a morphological variant as first term in an annexation. Regardless of the feminine prefix *t-*, and except for the class of loan words from Arabic in particular, the overwhelming majority of nouns and adjectives begin with an InV (initial vowel: *a*, *i*, or *u*). For example: *a-yyul* – *t-a-yyul-t* ‘donkey: male/female’; *a-zgg^waγ* / *t-a-zgg^wγ-t* ‘red M/F’.³⁸

ted in those dialects to any preceding obstruent (except *b < *m*), and a word final reduction of the resulting geminates gives rise to a singleton consonant on the surface (Elmedlaoui 1995a: 41). Examples: Tashlhiyt: *a-maziγ* – *ta-maziγ-t* ‘Berber: M/F’ vs. Touareg: *a-mahay* – *ta-mahay* ‘a Touareg Berber: M/F’ (a geminated *γ* yields [qq] as we have seen; see fn. 16).

37 As in Semitic, the Arabic *ğim*, nowadays pronounced as a postalveolar hushing fricative in North Africa, was not a coronal when Berber and Arabic came into contact (see Elmedlaoui 2011).

38 This vowel is the one we find in the demonstratives: *w-a* / *t-a* ‘the one (who): M/F’, *w-i* / *t-i* ‘the ones (who): M/F’. As in many languages that develop prefixed or suffixed nominal determiners, the diachronic relation between those elements and demonstrative or relative elements is often obvious. In Hebrew, the determinant *ha-* followed by an adjective or a participle can function as a relative pronoun (*melek hā-‘ōlam*, *ham-mahdīl bēn qōdeš lā-hōl*

In order to state adequate generalizations about the construct state formation, the following categorizing is useful: Tashlhiyt Berber nouns can be divided into two relevant lexical classes:

- a) A class where the initial vowel (InV) belongs to the stem (S): S-InV. This S-InV is not followed by a morpheme boundary ("") in our transcription here, e.g., *ag^wmar* 'horse' – *t-ag^wmar-t* 'mare'; *uday* – *t-uday-t* 'Jew M/F'; *izm* – *t-izm-t* 'lion/ess'.
- b) A class where the InV is indeed a prefix (P-): P-InV. This vowel is followed by a morpheme boundary in our transcription, e.g., *a-frux* – *t-a-frux-t* 'child M/F'.

Initial vowels whose quality is [u], as well as those whose quality is [a] in the plural form, are all stem initial vowels (S-InV), e.g., *uday* – *uday-n* 'Jew SG.M/PL.M'; *ag^wmar* – *ag^wmar-n* 'horse:M, SG/PL'; *iskr* – *askar-n* 'nail:M, SG/PL'. The last two examples contrast with those nouns where the singular InV yields [i] in the plural, such as in *a-rgaz* – *i-rgaz-n* 'man/men' or in *i-slm* – *i-slm-an* 'fish:M, SG/PL'.

For feminine nouns (singular and plural), the construct form is obtained by deleting the P-InV (if there is any at all).³⁹ Before the same deletion of the P-InV is done, the masculine CS form prefixes first an archi-vocoid /U-/ to the /InV+

'King of the universe, who divides the holy from the profane'). The same holds in CA, for which the ancient grammarians explicitly analyze the determiner (*a*)l- as a relative element (*al al-mawṣūliya* 'the relative al-'), when this particle is prefixed to a derived noun (adjectives and participles). Old CA poetry provides even examples where this (*a*)l- is followed by an overt verb of a relative clause: *mā 'anta bi-l-ḥakami t-turḍā ḥukūmatu-hū* 'you are not the umpire whose judgement is acceptable' (instead of the common relative construction *llaḍi turḍā ḥukūmatu-hū*).

39 The synchronic analysis of the masculine construct state-marking as an underlying prefixed /U/, which surfaces as [u], [w], [y], or [i]), goes back to Basset 1945. It is adopted in Guerssel 1983 within a generative grammar framework. The prefix /U-/, which is now synchronically maintained only in the masculine CS, is diachronically the morphological element that corresponds to the feminine prefixed marker *t-*. Synchronic evidence supporting this assumption is given by a set of Tashlhiyt pronouns: *w-a-lli* 'the one (REL):M'; *t-a-lli* 'the one (REL):F'; *w-illi* 'those (REL):M'; *t-i-lli* 'those (REL) F' (REL = who, whom, which, etc.). Furthermore, the same language, as well as many other Berber variants, still conserves some archaisms: *wa-yfs* 'yellow mustard'; *wa-zgg^way* 'a plant disease showing red spots on leaves'; *wa-biba* 'mosquito'; *wa-kuz* 'weevil'; *wa-grzam-n* 'tiger'; *wi-gzul-n* 'owl' (lit. "the one who is short"), etc. This also holds for many place names: *wawizyt*, *warzazat*, *wižžan*, *wirgan* (Morocco), *wahran* = *wihran*, *wargla* (Algeria). For this class of Berber archaism, see Brugnatelli 1998.

stem/ string. This /U/ assimilates first to any following *i*, regardless of its being an S-InV or a P-InV, to be eventually deleted later. The masculine CS prefixed marker /U-/ surfaces, then, as [u], [w], [i], or [y] according to the phonological context (syllabification and assimilation). Its fronted quality realization as [y] or [i] is the product of its assimilation to any initial vowel *i* before this one is eventually deleted, whereas its vowel/glide alternation is a function of the Tashlhiyt syllabification system. Examples are given below in Table 8:

Table 8: Construct state (case) marking in Tashlhiyt

	Prefixed initial vowel		Stem-initial vowel	
	FS	CS	FS	CS
SG.M	1. <i>a-frux</i>	<i>u-frux</i>	3. <i>aḡ^wmar</i>	<i>w-aḡ^wmar</i>
	2. <i>i-slm</i>	<i>i-slm</i>	4. <i>iskr</i>	<i>y-iskr</i>
			5. <i>uššn</i>	<i>w-uššn</i>
			6. <i>izm</i>	<i>y-izm</i>
PL.M	<i>i-frx-an</i>	<i>i-frx-an</i>	<i>aḡ^wmar-n</i>	<i>w-aḡ^wmar-n</i>
	<i>i-slm-an</i>	<i>i-slm-an</i>	<i>askar-n</i>	<i>w-askar-n</i>
			<i>uššan-n</i>	<i>w-uššan-n</i>
			<i>izma-w-n</i>	<i>y-izma-w-n</i>
SG.F	<i>t-a-frux-t</i>	<i>t-frux-t</i>	<i>t-aḡ^wmar-t</i>	<i>t-aḡ^wmar-t</i>
	<i>t-i-slm-t</i>	<i>t-slm-t</i>	<i>t-iskrt</i>	<i>t-iskr-t</i>
			<i>t-uššn-t</i>	<i>t-uššn-t</i>
			<i>t-izm-t</i>	<i>t-izm-t</i>
PL.F	<i>t-i-frx-in</i>	<i>t-frx-in</i>	<i>t-aḡ^wmar-in</i>	<i>t-aḡ^wmar-in</i>
	<i>t-i-slm-in</i>	<i>t-slm-in</i>	<i>t-askar-in</i>	<i>t-askar-in</i>
			<i>t-uššan-in</i>	<i>t-uššan-in</i>
			<i>t-izma-w-in</i>	<i>t-izma-w-in</i>

1. ‘child’; 2. ‘fish’; 3. ‘horse’; 4. ‘nail (of a finger)’; 5. ‘jackal’; 6. ‘lion’

In Tashlhiyt, the construct case is assigned to the noun in the following syntactic contexts:

- when the noun is the argument of a preposition other than *ar* ‘until’;
- when the noun is the first argument (non-focalized subject) in a VSO sentence construction;
- when the noun is determined by a cardinal number from one to ten, or by a [± Question] adverb, like *mnnaw* ‘(how) many (?)’.

(2) Examples:

*i-ssuda*₁ *u-rgaz*₂ (CS) *f=*₃*w-ag^wmar*₄ (CS) ‘the man₂ rode₁ on₃ the horse₄’

mnnaw w-ag^wmar-n (CS ‘(how) many horses (!/?)’

uššan-n ‘jackals’ (FS) vs. *sin*₁ *w-uššan-n*₂ (CS) ‘two₁ jackals₂’

Loan words that have not developed an InV (e.g., *l-brrad* ‘teapot’, *!batata* ‘potato’) exhibit no special form for CS. The CS morphosyntax and classification of nouns as to their InV is another parameter of variation within the Berber group. On this point, the Touareg subgroup presents an extreme case: its masculine singular is not marked at all for the CS. By contrast, the Kabyle dialect presents an interesting aspect: it allows a VOS sentence transformation not attested in Tashlhiyt: a semantic “subject” dislocated to the right of the object nevertheless exhibits a CS marker *wə-/u-*, e.g., *i-žammə*₁ *a-drim*₂ *w-!uhriš*₃ ‘the efficient (person)₃ amasses₁ money₂’. This dialect also assigns a CS form to a pronominalized object antecedent that is dislocated to the right with respect to its coindexed pronoun, e.g., *!zri-γ*₁=*t*₂, *wə-rgaz*₃-*n*₄ ‘I saw₁ him₂, that₄ man₃’ (see Chaker 1995: 43).

3.2.2.3 Number

3.2.2.3.1 Overview

For the majority of nouns, Berber opposes two morphological numbers, singular and plural.⁴⁰ As in CA and in its colloquial variants, the morphology of plural formation in the Berber group displays a very wide range of forms. The singular stem either remains sound in the plural form or is morphologically reshuffled into a broken stem. In Tashlhiyt, plural formation morphology makes use of both concatenative (prefixation and suffixation) and non-concatenative processes (i.e. stem-consonantal quantity change, and/or stem vocalic alternation, and/or insertion/deletion).

40 Comparable to Hebrew *duale tantum* forms (*mayim* ‘water’, *šamayim* ‘sky’, *mispārayim* ‘scissors’, *šohōrayim* ‘noon’), a limited set of non-derived nouns in Berber have only a plural morphological form (agreeing syntactically as a plural): *aman* ‘water’; *i-gnw-an* (in some dialects) ‘sky’; *i-damm-n* ‘blood’; *iman* ‘soul’; *t-uzzl-in* ‘scissors’; *ti-zwar-n-in* ‘noon’ *t-lakkwz-in* ‘mid-afternoon’. Other *plurale tantum* forms exist in Berber for state nouns or social titles, e.g., *a-rgaz* ‘man’ – *t-irrugza* ‘manhood’; *a-myar* ‘chief’ – *t-i-mmuyra* ‘chieftaincy’; *a-rrim* ‘young man’ – *t-i-urma* ‘youth’; *a-m-ddakkwl* ‘friend’ – *t-iddukkla* ‘friendship’. These derived forms are construed in the feminine plural. See Dell and Elmedlaoui 1992 for the morphological prosody of this derived noun class in Tashlhiyt.

To produce plural forms out of singular forms, the following morphological elements handle the four constituents of the noun:

- the P-InV vowel ablaut (see a) and b) in section 3.2.2.2);
- the vocalic constituency and/or quality of the stem, and/or its consonantal quantity make up (i.e. degemination);
- the feminine singular form suffix *-t*, which is deleted or not in the plural;
- the plural suffixes (M: *-n* or *-an*, and F: *-in*).

Being either *a-* or *i-*, a P-InV vowel of the singular always yields *i-* in the plural, e.g., *a-rgaz* vs. *i-rgaz-n* ‘man/men’; *t-a-tbir-t* vs. *t-i-tbir-in* ‘dove/s’; *t-i-mqqi-t* vs. *t-i-mqqa* ‘drop/s’. S-InV vowels with an [a]-quality in the singular, as well as a lexically determined subset of those having an [i]-quality, yield an *a* in the plural, e.g., *adan* vs. *adan-n* ‘gut/s’; *iskr* vs. *askar-n* ‘nail/s (of fingers)’. An InV vowel with a [u]-quality, which is always an S-InV, remains unchanged in the plural, e.g., *uššn* vs. *uššan-n* ‘jackal/s’. Before we proceed to descriptive generalizations about the different plural formation processes, Table 9 below gives the main representative forms:

Table 9: Examples of the main plural forms in Tashlhiyt

Non-suffixed broken plurals: (u)-a-vocalic ablaut and/or insertion					
(i)		(ii)		(iii)	
Singular	Plural	Singular	Plural	Singular	Plural
1. <i>a-sds</i>	<i>i-sdas</i>	5. <i>a-snus</i>	<i>i-snas</i>	9. <i>a-satur</i>	<i>i-sutar</i>
2. <i>t-i-nzr-t</i>	<i>t-i-nzar</i>	6. <i>a-!zmu</i>	<i>i-!zma</i>	10. <i>a-safu</i>	<i>i-sufa</i>
3. <i>a-srg^wl</i>	<i>i-srg^wal</i>	7. <i>a-srdun</i>	<i>i-srdan</i>	11. <i>a-madl</i>	<i>i-mudal</i>
4. <i>i-fnškk^r</i>	<i>i-fnškkar</i>	8. <i>a-frdu</i>	<i>i-frda</i>	12. <i>a-says</i>	<i>i-suyas</i>
Sound plurals: suffixation only				Suffixed templatic plural: /i-CCC-an/ (iv)	
Singular	Plural	Singular	Plural	Singular	Plural
18. <i>a-rgaz</i>	<i>i-rgaz-n</i>	21. <i>i-!mšd</i>	<i>i-!mšd-n</i>	13. <i>a-šddir</i>	<i>i-šdr-an</i>
19. <i>a-funas</i>	<i>i-funas-n</i>	22. <i>i-rgg</i>	<i>i-rgg-n</i>	14. <i>a-gnna</i>	<i>i-gnw-an</i>
20. <i>a-ɣaras</i>	<i>i-ɣaras-n</i>			15. <i>a-mazir</i>	<i>i-mzr-an</i>
Mixed plurals: vowel insertion / ablaut + suffixation				16. <i>a-wrz</i>	<i>i-wrz-an</i>
				17. <i>a-zrg</i>	<i>i-zrg-an</i>
Singular	Plural	Singular	Plural		
23. <i>a-zgr</i>	<i>i-zgar-n</i>	24. <i>i-miss</i>	<i>i-mass-n</i>		

1. 'trough'; 2. 'nose'; 3. 'lid'; 4. 'hoof'; 5. 'young donkey'; 6. 'meadow'; 7. 'mule (male)'; 8. 'mortar (bowl)'; 9. 'beam'; 10. 'brand'; 11. 'slope'; 12. 'agora, stage'; 13. 'bramble'; 14. 'sky'; 15. 'manure'; 16. 'heel, hinge'; 17. 'mill'; 18. 'man'; 19. 'cow'; 20. 'road'; 21. 'wool card'; 22. 'shell debris'; 23. 'ox'; 24. 'tool'.

3.2.2.3.2 *Technicalities of plural formation*

Despite its apparent richness in variety of surface forms, the Tashlhiyt plural formation system is by far less idiosyncratic than the CA one. If we leave aside the InV parameter dealt with above, plural forms may be categorized into three main categories, according to the processes involved: (i) broken plural forms (BP), formed by associating a /*(u)a*/ vocalic melody to the singular stem, (ii) templatic plural forms (TP), formed by supplying a suffix (M. *-an* or F. *-in*) and by modifying the stem segmentally so that the plural word acquires a four mora structure (4μ); and finally, (iii) sound plural forms (SP), where a suffix (M. *-n* or F. *-in*) is added to the singular stem.

(i) The input of broken plural (BP) forms are all singular stems, where the two vowels, whatever they may be are not both of the same quality (*a...a*, *i...i*, or *u...u*) nor already of the form *u...a*. If the stem contains a single vowel this vowel should not be an *a* in the final or penult position. The two last prerequisites derive from the fact that the two vowels *u...a*⁴¹ or a single vowel *a* in the final or penultimate position are exactly the proper vocalic melody of the BP, whereas a constraint requires that the plural form be distinct from the singular. The formation of a BP stem is obtained by vocalic ablaut and/or insertion. That consists in assigning the plural vocalic melodies /*(u)a*/ to the singular stem. The plural *u*-melody is always the result of an ablaut with respect to a corresponding vowel of the singular stem, and this ablaut always takes place together with the realization of the other plural melody, the *a*-melody, whereas this last one may be realized either as an ablaut, if its *v*-position (i.e. the final or penultimate vowel of the stem) is already filled in the singular input, or otherwise as an insertion. In other words, its realization does not depend on the realization of the *u*-melody.

41 While a stem (nominal or verbal) in the present Berber variants may have no vowel at all, because of the assumed diachronic degeneration of vowels, it may comprise at most two vowels as in the Semitic languages.

The locus of the plural *u*-melody is the first *v*-position of any singular stem containing two different vowels,⁴² e.g., *anu* – *una* ‘well/s’; *a-saru* – *i-sura* ‘channel/s’; *a-lgamu* – *i-lguma* ‘bit/s (bridle)’; *a-srraru* – *i-srrura* ‘rake/s (agr.)’; *a-bayuy* – *i-buyay* ‘fox/es’; *a-nttarfu* – *i-ntturfa* ‘the one in the edge’; *a-gadir* – *i-gudar* ‘wall/s, fortress/es’; *a-madir* – *i-mudar* ‘a kind of hoe’; *a-!hidur* / *i-!hudar* ‘tanned animal hide/s’; *a-lutim* – *i-lutam* ‘big heap/s of bush-like material’.

The locus of the plural *a*-melody, realized as an ablaut, is the final or penult *v*-position of the singular stem if this position is not already occupied by an *a*, as in the previous examples and in *a-gru* – *iḡ^wra* ‘frog/s’; *a-zzwi* – *i-zzwa* ‘pole/s’; *t-a-zzwi-t* – *t-i-zzwa* ‘bee/s’; *a-frdu* – *i-frda* ‘mortar/s (bowl)’; *a-gdur* – *i-ḡ^wdar* ‘amphora/s’; *a-grtil* – *i-grtal* ‘mat/s’; *a-!gdid* – *i-!gdad* ‘bird/s’; *t-a-!mnid-t* – *t-i-!mnad* ‘side/s’; *t-a-ḡštrir-t* – *t-i-ḡštrar* ‘kneecap/s, patella/e’; *t-i-!midi* – *t-i-!mad* ‘hundred/s’ (old word); *a-!gdrur* – *i-!ḡ^wdrar* ‘dust/s’. Its locus when realized as an insertion is restricted to the penult segmental position of singular stems ending with CC#, eg., *a-nzr* – *i-nzar* ‘nose/s’; *a-sds* – *i-sdas* ‘trough/s’; *t-a-!sdr-t* – *t-i-!sdr* ‘water lock/s’; *a-satm* – *i-sutam* ‘fastened hole/s in a wall serving as a shelf’; *a-madl* – *i-mudal* ‘mountain slope/s’; *a-ssarg^w* – *i-ssurag* ‘grinding stone/s’; *t-agḡ^ws-t* – *t-uggas* ‘belt/s’; *a-sksl* – *i-skisal* ‘hatch/es’; *i-fnškk^r* – *i-fnškkar* ‘hoof/ves’; *a-!mggrd* – *i-!mggrad* ‘neck/s’.

However, a few singular stems may meet the structural conditions for a broken plural, but are nevertheless assigned a templatic plural (TP, see (ii) below) or a sound plural (SP, see (iii) below) in the lexicon, either as a solely acceptable form or as a second possible one, together with the default plural form, the SP. For example: TP: *a-mazir* – *i-mzr-an* (**i-muzar*) ‘manure/s’; SP: *a-bukir* – *i-bukir-n* (**i-bukar*) ‘goat/s (male)’.

In parallel to the penult-position insertion of an *a*-melody as a default vowel in broken plural formation, which is also at work in the *tt*-prefixed form of the imperfect verb formation (see section 3.2.1.1), the broken form for nominalized derived nouns shows the same vowel copying that takes place in the imperfect form of their verbal base (see examples j. and k. in Table 4). For example: *griwl* / *tt-griwil* ‘to turn round PRF/IMP’ vs. *a-griwl* / *i-giwil-n* ‘turning round: SG/PL’; *rfufn* / *tt-rfufun* ‘to mistreat: PRF/IPF’ vs. *a-rfufn* / *irfufun-n* ‘mis-treating: SG/PL’.

42 As in Semitic, a Berber stem comprises at most two vowels (*a-bbaškar* ‘claw’). In terms of syllables, the stem in Tashlhiyt, which allows syllabic consonants and at the same time obeys the two vowels maximum-stem prosodic constraint, is maximally trisyllabic, e.g., *i-frskil* (frs.kil) ‘latexy plant: *launea arborescens*’; *i-fnškk^r* (fn.šk.kr) ‘hoof’; *a-xndallas* (xn.dal.las) ‘plotter’.

(ii) Templatic plural (TP) forms constitute another type of broken plural obeying a prosodic constraint. The first subtype is the suffixed TP (Suf-TP). Its suffix is *-an* in the masculine (/i-CCC-an/) and *-in* in the feminine (/t-i-CCC-in/). While the feminine suffix *-in* is shared by all suffixed feminine plurals (i.e. broken as well as sound plurals), the plural suffix *-an* is specific to the masculine Suf-TP.⁴³

The Suf-TP is prosodically constrained, in that the whole resulting word (prefix-stem-suffix) is subject to the condition of double bi-moraic structure (i.e. 4 moras, “4μ”), regardless of the number of syllables (two or three), and is lexically classed as bi-consonantals and tri-consonantals (Suf-TP: *i-lmš* /i-lmš-an/ ‘peel/s’ vs. SP: *i-lmšd* /i-lmšd-n/ ‘wool card/s, honey comb/s’). Given the syllabification system of Tashlhiyt (see section 3.1.7) and its mora counting terms within the syllable, and given the double bi-moraic constraint of the Suf-TP, only bi-consonantal and tri-consonantal singular stems (regardless of vowels and/or gemination) may serve as candidates in the lexicon for a [+ Suf-TP] feature assignation. Once a singular stem (CCC, CvCvC, CCv, CCvC, etc.) is assigned a [+ Suf-TP]-feature, the double bi-moraic constraint acts on any extra-segmental material of the input (the singular stem) so as to make the plural output noun fit a 4μ-structure. The hierarchy of precedence in the segmental input-output melody preservation and transfer is the following:

- In case of extra-segmental material in the input:
consonantal melody >> consonantal quantity >> vocalic melody.
- In case of consonantal shortage in the input:
glidification of a final high vowel >> Glide insertion >> quantitative transfer.⁴⁴

Table 9-iv already provides examples of Suf-TP forms. Here are some other singular–Suf-TP examples: *a-zrg* – *i-zrg-an* [i.zr.gan] ‘mill/s’; *i-frig* – *i-frg-an* [i.fr.gan] ‘hedge/s’; *a-xliž* – *ixlž-an* ‘marshy jungle/s’; *a-!nzar* – *i-!nZR-an* [i.nz.ran] ‘rain’ (SG/PL); *a-mazir* – *i-mzran* [i.mz.ran] ‘manure/s’; *a-duku* – *iduk-an* [i.du.kan] ‘shoe/s’; *i-tri* – *i-tr-an* [it.ran] ‘star/s’; *urti* – *urt-an* [ur.tan] ‘or-

43 The Ghomara Berber dialect (Jebala, in Northern Morocco) is peculiar in that the feminine plural suffix is *-an* and not *-in*, e.g., *t-a-mayar-t* – *t-i-myar-an* ‘old woman:F, SG/PL’; *t-a-muđa* – *t-i-muđiw-an* ‘sow:F, SG/PL’; *t-a-mđa* / *t-i-mđiw-an* ‘pond:F, SG/PL’.

44 For other aspects of transfer in Tashlhiyt morphology cf. Dell and Elmedlaoui 1992.

chard/s'; *urf* – *urf-an* [ur.fan] 'pebble/s'; *i-fri* – *i-fr-an* 'grotto/s'; *a-rku* – *i-rk-an* 'dirt/s'; *a-!g^wdi* – *i-!g^wdy-an* [i.g^wd.yan] 'hole/s'; *a-zg^wi* – *i-zg^wy-an* [i.zg^w.yan] 'broken pottery fragment/s'; *i-!zdi* – *i-!zdy-an* [i.zd.yan] 'spindle/s, 'porcupine's thorn/s'; *a-!gžža* – *i-!gžw-an* 'tree trunk/s'; *ilf* – *alf-an* [al.fan] 'boar/s'; *!ifd* – *!afd-an* [af.dan] 'thousand/s'; *ink* – *ank-an* [an.kan] 'hearth stone/s'; *i-brdi* – *i-brd-an* [i.br.dan] 'cloth/s'; *a-nšur* – *i-nšr-an* [i.nš.ran] 'lip/s'.

Because of the combined action of the no-hiatus syllable constraint (onset constraint, see section 3.1.7) and the 4 μ -structure constraint of the TP formation, the above examples with vowel-final singular stems show how any final vowel of the singular input is either resyllabified as a glide (*a-!g^wdi* – *i-!g^wdy-an*) or completely dropped in any plural output where it would result in an extra mora with respect to a 4 μ -structure.⁴⁵

The following additional examples illustrate how the TFC (template fitting condition) interacts with the segmental transfer precedence stated above: in a tri-consonantal stem input, any eventual geminate C₂ is degeminated. Thus: *a-gllid* – *i-gld-an* [i.gl.dan] 'king/s'; *a-qššab* – *i-qšb-an* [i.qš.ban] 'shirt/s'; *t-a-kššul-t* – *t-i-k^wšl-in* [ti. k^wš.lin] 'churn/s'. This is not the case with C₁ and C₃ in tri-consonantal stems and with C₂ in bi-consonantal ones (*a-gg^wrđi* – *i-gg^wrd-an* [ig^w~.g^wr.dan] 'flea/s' or with *i-frkki* – *i-frkk-an* [i.frk~.kan.] 'rind/s, hull/s'; *i-!yrzzi* – *i-!yrzz-an* [i.yrz~.zan] 'wasp/s'; *i-!frzzi* – *i-!frzz-an* [i.frz~.zan] 'shell debris' (SG/PL); *a-!kuzzi* – *i-!kuzz-an* 'sounding fart/s'; *a-kušši* – *i-kušš-an* 'fart/s'; *i-žnqqi* – *i-žnqq-an* [i.žnq~.qan] 'piece/s of pottery (pejorative)'.

This difference between the stem consonants (C₂ vs. C₁ and C₃) in degemination is not an idiosyncrasy; it follows from the Tashlhiyt mora counting calculus. In fact, according to Dell and Elmedlaoui (2007b, 2002, 2008), mora counting in Tashlhiyt syllables proves to be also relevant for Tashlhiyt poetic meter,⁴⁶

45 A similar lexically assigned Suf-TP in CA is the templatic four-moraic broken plural /CvCC-ān/, e.g., *ġazāl* – *ġizlān* 'gazelle/s'; *fa'r* – *fi'rān* 'mouse/mice'; *ġirad* – *ġirdān* 'big rat/s'; *rakb* – *rukbān* 'procession/s'; *rahib* – *ruhbān* 'monk/s'; *ġulām* – *ġilmān* 'young man/men'; *walad* – *wildān* 'boy/s'; *ħill* – *ħillān* 'friend/s, mate/s'.

46 Tashlhiyt syllabic structure, as sketched above in 3.1.6 has proved to be relevant to many processes in the grammar of this language, notably the imperfective formation by means of geminating C₁ or C₂ among trisegmental verbs, as stated in section 3.2.1.1 (see Elmedlaoui 1985; Dell and Elmedlaoui, 1988). The mora-counting system, revealed here to be relevant to plural formation, has also proved to be relevant to poetic meter in this language (see Dell and Elmedlaoui 1997b, 2002, 2008). But with the ongoing sociolinguistic move within the new generations among the Tashlhiyt speakers, only one category of available Tashlhiyt data is concerned, namely the corpus of old sung poetry for metrics (Dell and Elmedlaoui

as ill-formed plurals such as **iglldan* [i.gll.dan] or **tik^wššlin* [ti.k^wšš.lin] can only be analyzed as five-mora words [1 μ .2 μ .2 μ], whereas well-formed plurals, such as *i-frkk-an* [i.frk~.kan] or *i-gg^wrd-an* [ig^w~.g^wr.dan],⁴⁷ may be analyzed in Tashlhiyt prosody as two bi-moraic ones [1 μ .1 μ .2 μ] and another well-formed Suf-TP such as *i-xxi* – *i-xx-an* [ix~.xan] ‘excrement/s’ may be analyzed as four-moraic (2 μ .2 μ).⁴⁸ The fact that in the non-templatic broken plural described above C₂ is not subject to such degemination (*a-qžžun* – *i-q^wžžan* ‘chipped piece/s of pottery’; *a-!mžžud* – *i-!mžžad* ‘nasty person/s’; *a-sgg^wrd* – *isgg^wrad* ‘platform of an oil press’) shows that C₂ degemination is only the result of the 4 μ structure imposed on the Suf-TP.

In the case of consonantal shortage in an input, lexically marked for [+Suf-TP], a filling glide is supplied by insertion for sake of template satisfaction, as in the example 14 of Table 9 and in the following example: *a-x^wna* – *i-xnw-an* [i.xn.wan] ‘arse/s’. Finally, in some other cases of consonantal shortage, when vowel-final stems (CCv) are assigned a templatic plural in the lexicon (unlike *agru* – *ig^wra* ‘frog/s’ and example 6 in Table 9), any final high vowel is preserved and resyllabified as a glide according to the Tashlhiyt syllabification system.

2008: 48-50) and the corpus of texts and dictionaries (see Destaing 1920), collected by Berberologists (notably Stroemer and Boogert) or ethnographers (e.g., Laoust) for morphology and grammar in general (see Dell and Elmedlaoui 2010).

- 47 The notation [C~C] in the syllabic parsing above represents a heterosyllabic geminate /C:/ . As stated in Dell and Elmedlaoui 1997b, 2002, and 2008, the first half of a heterosyllabic geminate that fills a coda position while the second half serves as an onset of the following one, is prosodically ambiguous in Tashlhiyt prosody in general: it may or may not count as a mora (cf. the moraic weight in syllables ending in /C~/ in Table 10). The first work to approach plural formation in Tashlhiyt, in terms of moraic counting, is Jebbour 1988, but the author’s own mora-counting is not descriptively adequate for plural formation and is not in accordance with other mora-sensitive linguistic phenomena in this language, namely poetic meter (for this last aspect of mora counting see Dell and Elmedlaoui 2010).
- 48 We found very few stems in Tashlhiyt beginning with a geminate and having a Suf-TP form like *agg^wrdi*. In addition to a plural form toponym *i-ssg^w-an* [iss.g^wan] (2 μ .2 μ), two such other stems we found with a Suf-TP plural form are: *ta-!kk^wz-in* [tak^w.zin] (2 μ .2 μ) ‘noon’ and *t-uzzl-in* [tuzz.lin] (2 μ .2 μ) ‘scissors’. The derivation of the second is very significant: its singular, no longer used with the same semantics, is *t-uzzal-t* ‘knife’, whose own regular plural is a sound plural: *t-uzzal-in* ‘knives’ (< *uzzal* ‘iron’). A Suf-TP plural being assigned to the form meaning ‘scissors’, the segmental input-output precedence in transfer, given above, drops the vowel of the singular but does not affect gemination quantity since the geminate in the output [tuzz.lin] (2 μ .2 μ) does not exceed four moras, according to Dell and Elmedlaoui’s (1997b, 2002, and 2008) mora counting.

Thus: *i-kru* – *i-krw-an* [i-kr.wan] ‘kid/s’; *t-i-flu-t* – *t-i-flw-in* [ti.fl.win] ‘door/s’; *a-zg^wi* – *i-zg^wy-an* [i.zg^w.yan] ‘piece of broken pottery’.

Another 4μ-TP, is the unsuffixed TP. It belongs to a class of morphologically feminine plural nouns denoting state and social positions and has no singular form (see fn. 40). Its template, /t-i-CuCCa/, shows also the broken plural vocalic melody /u...a/. Whereas its C₁ is always geminated, C₂ can only be geminated by transfer of any gemination which may be present in the input. Examples: *a-rgaz* ‘man’ – *t-irrugza* [tir~.rug.za] (4μ) ‘man-hood’; *a-m-!ššardu* ‘fruit trees guard’ – *t-!iššurda* [tiš~.šur.da] (4μ) ‘guarding of fruit trees’; *l-m-qddm* ‘chieftain’ – *t-iqquddma* [tiq~.qudd.ma] (4μ) ‘chieftaincy’; *ukr* ‘to steal’ – *t-!ikkurda* [tik~.kur.da] (4μ), ‘robbery’ (see Dell and Elmedlaoui 1992).

(iii) The sound plural (SP) is yet another type of suffixed plural, obtained simply by appropriate suffixation (*-n* for masculine and *-in* for feminine),⁴⁹ together with subsidiary suffixing readjustments (see (iv) below).

Even though rarely assigned by the lexicon as the only possible plural form (e.g., *i-!mšd* – *i-!mšd-n* ‘wool card/s, honey comb/s’; *i-rgg* – *i-rgg-n* ‘shell debris’ (SG/PL) vs. BP *a-sds* – *i-sdas* ‘trough/s’), SP is the plural form by default. Given the fact that, for masculine at least, the plural form should be differentiated from that of the singular, the default SP form applies in cases where the singular input stem does not conform to the structural description of the non-templatic BP’s input, stated in (i) above. This is the case when the singular stem contains two identical vowels (e.g., *a-ɣaras* – *i-ɣaras-n* ‘road/s’; *a-xndallas* – *i-xndallas-n* ‘plotter/s’; *abbaškar* – *abbaškar-n* ‘claw/s’; *a-liftit* – *i-liftit-n* ‘stroll/s’; *a-fullus* – *i-fullus-n* ‘chicken/s’; *aga* – *aga-t-n* ‘pot/s for drawing water’; *a-ruku* / *i-ruku-t-n* ‘utensil/s’ (for *-t*-insertion, see section (iv) below), or when the stem contains two different vowels, the first of which is already *u* (*a-bukir* – *i-bukir-n* ‘goat/s’; *a-!rumiy* – *i-!rumiy-n* ‘Roman/s, European/s’). It also applies when the singular stem already presents the vocalic melody /*(u)a*/ proper to the non-templatic BP (*a-rgaz*, – *i-rgaz-n* ‘man/men’; *a-drar* – *i-drar-n* ‘mountain/s’; *a-mugay* – *i-mugay-n* ‘cow/s’; *a-funas* – *i-funas-n* ‘cow/s’; *a-!bukad* – *i-!bukad-n* ‘blind person/s’; *udad* – *udad-n* ‘mouflon/s’; *uraw* – *uraw-n* ‘joint-two-hands fist-full/s’; *uynay* – *uynay-n* ‘one-open-curved hand fist-full/s’).

49 In addition to the remark in fn. 43, we know only of one regular feminine noun whose plural suffix is *-n*: *t-!ayad-t* – *t-!ayad-in* = *t-!iyatt-n* ‘goats’; another noun has a synchronically observed suppletive derivation: *t-ili* / *t-att-n* ‘ewe’.

With a certain class of feminine stems, all of its members already having a plural melody form /...CaC/, the dropping of the feminine singular suffix *-t* is the only mark of the plural form, in addition to the InV ablaut: *t-a-glay-t* – *t-i-glay* ‘egg/s’; *t-a-hray-t* – *t-i-hray* ‘ewe/s’; *t-a-xsay-t* – *t-ixsay* ‘squash/es’; *t-a-ryal-t* – *t-i-ryal* ‘basket/s’; *t-!ummaz-t* – *t-!ummaz(-in)* ‘handful/s’; *t-a-yrar-t* – *t-i-yrar(-in)* ‘capacity measure/s’ (unit = 200 liters). A subset of this class has two plural options; thus, *t-a-ryal-t* or *t-a-yrar-t* may also have a full suffixed SP form: *t-i-ryal-in*, *t-i-yrar-in*, respectively. This special plural form should then simply be considered an apocopate SP form.

It happens that a stem allows for more than one process of plural formation, the SP being frequently the default. Examples: *t-a-kššul-t* ‘churn’, PL: *t-i-k^wššal* (BP), *t-i-k^wšl-in* (TP), or *t-i-kššul-in* (SP); *a-malu* ‘shadow’, PL: *i-mula* (BP) or *i-malu-t-n* (SP).

In addition to any eventual InV-ablaut, according to noun classes (see section 3.2.2.2), the SP in Tashlhiyt consists then simply of supplying the sound stem of the singular with a plural suffixes *-n* in the masculine and *-in* in the feminine, in addition to appropriate suffixing readjustments (see section 3.2.2.3.3 below). SP is the simpler form, the default form in the grammar, and is the form that acculturated Berber speakers in the big cities nowadays tend to overextend by analogy.⁵⁰

(iv) There are also some subsidiary plural formations (mixed plural forms). The /CiCC/ singular stems, a subset of the CC#-ending class, have a mixed plural (MP). This means that in addition to the BP melody realized as an ablaut, this plural form also has a suffix, e.g., *iyil* – *iyal-n* ‘arm/s’; *i-gidr* – *i-gadr-n* ‘eagle/s’; *i-mikr* – *i-makr-n* ‘thief/ves’; *i-miss* – *i-mass-n* ‘tool/s’; *i-rigg^w* – *i-ragg^w-n* ‘steam/s’; *i-!zikk^w* – *i-!zakk^w-n* ‘fringe/s’.

The same mixed process holds for a smaller subset, namely *a-CuC* stems, which also have a suffix in addition to their C₂ gemination, e.g., *a-fus* – *i-fass-n* ‘hand/s’; *a-fud* – *i-fadd-n* ‘knee/s’; *a-!lud* – *i-!latt-n* ‘mud (SG/PL)’.

An example of an MP form, where the BP process is *a*-insertion and not ablaut, is: *iskr* – *askar-n* ‘nail/s’; *!iškd* – *!aškad-n* ‘hook/s’. A few examples among

50 The same kind of analogy is at work in contemporary Modern Standard Arabic: a tendency to generalize the feminine SP form (...-āt) to the majority of neologisms (coined or borrowed); thus: *qītār* / *qītārāt* (**qutūr*, **aqīra*) ‘train/s’; *litr* / *litrāt* (**altār*, **lutūr*) ‘liter/s’, etc.

this class are only optionally MP, e.g., *a-zgr – i-zgar(-n)* ‘ox/es’; *a-dmr – i-dmar(-n)* ‘rib/s’.⁵¹

A set of mono- or biconsonantal singular stems also takes a MP form (i.e. vowel insertion and suffix), but with a separating glide in addition, e.g., *ul – ula-w-n* ‘heart/s’; *ixf – ixfa-w-n* ‘head/s’; *udm – udma-w-n* ‘face/s’; *isk, – aska-w-n, a-ski-w-n* ‘horn/s’; *ilm – ilma-w-n* ‘skin/s, hide/s’; *ism – isma-w-n* ‘name/s’; *ifr – ifra-w-n* ‘feather/s, leaf/leaves’; *izm – izma-w-n* ‘lion/s’; *ils – alsi-w-n* ‘tongue/s’; *i-mi – i-ma-w-n* ‘mouth/s’.⁵²

Non-suffixed BPs and TPs are all plurals with an InV *i*, i.e. these plural forms never show *a* or *u* as InV.

3.2.2.3.3 Generalizations about plural suffixation

The masculine plural suffixes *-n* and *-an*, as well as the feminine plural suffix *-in*, obey a constraint which forbids their contact with any eventual final vowel of the stem. When such contact would arise this constraint gives rise to the following remedial processes:

- (i) The stem-final vowel is deleted, e.g., *itri – itr-an* ‘star/s’; *a-duku – i-duk-an* ‘shoe/s’; *t-i-lki-t – t-i-lk-in* ‘louse/lice’;
- (ii) A separating glide (*-w-* or *-t-*) is inserted, e.g., *agža – agža-w-n* (or *agža-t-n*) ‘jaw/s’; *t-i-yrsi – t-i-yrsi-w-in* ‘slaughtered animal/s, e.g., sacrifice or food’; *a-ruku – i-ruku-t-n* ‘utensil/s’; *arra – arra-t-n*; ‘written document/s’; *a-saka – i-saka-t-n* ‘brigade/s’;⁵³
- (iii) A final glide (**y* or **w*), diachronically subject to final deletion in a class of singular stems, is preserved with plural suffixation, e.g., *i-bri – i-briy-n* ‘debris’ (SG/PL); *a-!yrda – i-!yrday-n* ‘mouse/mice’; *a-m-ksa – i-m-ksaw-n* ‘shepherd/s’;

51 Mixed plurals also exist in other Afroasiatic languages, which exhibits BP and SP, e.g., CA *ʾard* ‘earth’ – *ʾarādīn* (BP), *ʾarādūn*, *ʾarādīn* (SP); *ibn* ‘son’ – *ʾabnā* (BP), *banūn*, *banīn* (SP).

52 Comparison with some other Berber dialects (e.g., Tashlhiyt: *ifr* vs. some Tamazight dialects: *ifrew* ‘leaf, wing’) suggests that this class diachronically derives from *CCw roots, in which case the current Tashlhiyt plural form should be diachronically interpreted as a MP form *i-ccaw-n* with only vowel insertion, as in *a-dmr – i-dmar-n* ‘rib/s’; *a-zgr – i-zgar-n* ‘ox/en’. The C(C)-class of words in Berber recalls some CA biconsonantal words such as */bn/* ‘son’, */sm/* ‘name’, */fw/* ‘mouth’, to which CA grammarians synchronically assign the underlying roots: \sqrt{bnw} , \sqrt{smw} , and \sqrt{fwh} , respectively.

53 In sporadic cases of expressivity, *-t*-insertion happens to be used with a templatic plural to express superabundance (i.e. the equivalent of the so-called *ḡamʿ al-kaṭra* in CA). Thus *a-!nzar* ‘rain’, *i-!nzn-an* ‘rains’ – *i-!nzra-t-n* ‘superabundant rain’.

a-zgza – i-zgzaw-n ‘blue, green’ (SG/PL). These glides are in fact also maintained with the singular feminine suffixation, e.g., *t-a-yrday-t* ‘mouse (F)’; *t-a-mksaw-t* ‘shepherd (F)’; *t-azgzaw-t* ‘blue, green (F)’;

(iv) In synchronic perspective, the feminine singular suffix *-t* seems to be preserved in the plural form as a separating glide, e.g., *t-a-bra-t – t-i-bra-t-in* ‘letter/s (message)’; *t-a-rba-t – t-i-rba-t-in* ‘girl/s’; *t-a-sli-t – t-i-sla-t-in* ‘bride/s’ (*a-sli* ‘groom’). In stems ending with a consonant or a glide (*y* or *w*), the feminine singular suffix is not maintained in the plural, e.g., *t-a-brar-t – t-i-brar-in* ‘spotted (F, SG/PL)’ *t-illiš-t – t-illiš-in* ‘louse/lice’; *t-a-zlaf-t – t-i-zlaf-in* ‘bowl/s’; *t-argan-t – t-argan-in* ‘argan tree/s’; *t-azar-t – t-azar-in* ‘fig tree/s’; *t-a-funas-t – t-i-funas-in* ‘cow/s’; *t-a-zgzaw-t – t-i-zgzaw-in* ‘green (SG/PL)’; *t-azday-t – t-azday-in* ‘palm tree/s’;

(v) The feminine SP form of certain singular stems ending in *i/y* may be subject to truncation of suffixed material, e.g., *t-ahray-t – t-i-hray-in* or *t-i-hray* ‘ewe/s’; *t-a-guri – t-i-guri-w-in* or *t-i-guri-w* ‘word/s’.

Finally, for certain classes of feminine nouns, the basic processes sketched above, which include glide insertion, are followed by a secondary process of vowel harmony: the rightmost vowel of the stem is assimilated to that of the suffix *-in*. Examples: *t-a-yawsa – t-i-yawsi-w-in* (**t-i-yawsa-w-in*) ‘thing/s’, *t-adla – t-adli-w-in* ‘sheaf/ves’; *t-a-g^wrsa – t-i-g^wrsi-w-in* or *t-g^wrsi-w* ‘ploughshare/s’. The same process of vowel harmony takes place with the masculine plural suffix *-an*. Examples: *i-nigi – i-nag-an* (**i-nig-an*) ‘witness/es’; *i-fili – i-fal-an* (**i-fil-an*) ‘thread/s’; *i-rifi – i-raf-an* ‘thrust (SG/PL)’; *i-liwi – ilaw-an* ‘tripe/s’; *i-niyi – i-nay-an* ‘dead/s’; *i-!bidi – i-!bad-an* ‘senseless or wrong talk (SG/PL)’ (the singular stem final vowel is deleted in order to avoid a hiatus with the suffix *-an*; see generalization (i) above).

3.2.2.3.4 Plural formation as a parameter of Berber dialectal variation

Morphological regularities and subregularities in plural formation are another range of parameters, where the Berber variants diverge extremely. For example, the Tarifit Berber form *i-ḍurar*, a plural of *a-ḍrar* ‘mountain’ (vs. Tashlhiyt *a-drar – i-drar-n*), is absolutely discarded in Tashlhiyt, for which such a plural form could only be derived from some hypothetical singular form like the unattested **a-darur* (cf. items 9 and 11 in Table 9).⁵⁴ Other plural forms such as *i-rgz-n* or

⁵⁴ For plural formation in Tarifit, see Azrak 2005.

t-addr-win (plurals of *a-rgaz* ‘man’ and *t-addar-t* ‘house’, respectively) in Tamazight Berber (see Taifi 1999) are also absolutely discarded in Tashlhiyt Berber morphology; instead, the plural forms of these singular forms are *i-rgaz-n* ‘men’ and *t-addar-in* ‘houses’, respectively.

However, the overall set of plural forms is the same throughout all the Berber variants. Only phonetic diachronic change on the one hand and changes in lexical assignment of plural forms to some singular stems on the other are responsible for such actual dialectal diversity. For example, *t-addrw-in*, as a plural in the Tamazight variety, does not represent a peculiar plural form in comparison with the Tashlhiyt set of plural forms. It is nothing, in fact, but an assignment of a templatic plural form by the Tamazight lexicon to the noun *t-addar-t*, whereas this noun takes a default sound plural form in Tashlhiyt (*t-addar-t* – *t-addar-in*). With such a lexical assignment, and in order to satisfy the 4 μ -count prosody of the TP form, a glide *w* needs in fact to be inserted to yield *taddrwin* [tad~.dr.win], as in *a-x^wna* – *i-xnw-an*; *t-a-x^wna-t* – *t-i-xnw-in* previously dealt with in Tashlhiyt.

Here is an example of phonetic change: many Tamazight subdialects share the lemma *a-ybalu* – *i-ybula* ‘fountain/s’ with Tashlhiyt, a singular/plural instantiation, which is regular with respect to the non-suffixed broken plural formation in Tashlhiyt (like the previously seen *a-lgamu* – *i-lguma*). But the Ayt Ayyach Tamazight subdialect developed a second truncated synonymous singular variant: *a-ybal*. If this truncated singular form existed in Tashlhiyt, its plural form would certainly be *i-ybal-n*. This plural form does in fact exist in Ayt Ayyach. But, having the same meaning and sharing the same phonetic surface except for the last segment, the two variants, *a-ybal* and *a-ybalu*, wound up in this dialect by inverting their respective plural forms in the speech of the new generation, yielding *a-ybal* – *i-ybula* as a synchronic singular/plural relation. Tashlhiyt also exhibits some comparable cases of intra/inter-sub-dialectal interference on this point, e.g., *t-allun-t* – *t-illuna* ‘tambourine/s’. According to our plural formation analysis, and like *a-ybalu* – *i-ybula* ‘fountain/s’ or *t-a-hanu-t* – *t-i-huna* ‘shop’, the plural form *t-illuna* could only be a plural form of a hypothetical **t-allanu-t*, a word, which is, however, synchronically unattested.

3.2.2.4 Determination/indetermination

In Tashlhiyt, a noun is marked by default as definite without any article. A noun can be determined by cardinal numerals, among which the numeral *yan* ‘one’ also serves as an indefinite article. So, the noun phrase *yan₁ u-rgaz₂* means

'a₁ man₂' or 'one₁ man₂', according to context, whereas *sna-t₁ t-frx-in₂* only means 'two₁ girls₂'. On the other hand, *yan [sin i-frx-an]* and *yan [sna-t t-frx-in]* mean '[two boys]' and '[two girls]', respectively, in the indefinite sense. (In-)determination can also be expressed by quantitative or qualitative adverbs such as the [\pm question]-indefinite numeral adverb *mnna^w* '(how) many'; thus: *mnna^w i-frx-an* 'many boys!' or 'how many boys?'. It may also be expressed by the quality adverb *gar* 'mediocre, bad', e.g., *gar a-rgaz* 'a bad/mediocre man/husband'.

As in English, the indication of category or species is implied in the bare noun (*y-uf₁ w-uzzal₂ anas₃* 'iron₂ is₁ better₁ than₁ copper₃'). The suffixed elements in a NP expression such as /X-da/ or /X-lli/ assign a referential determination that means 'the X in question', e.g., *i-dda₁ u-frux₂-lli₃* 'the boy₂ in question₃ went away₁', while the suffix *-nna*, not followed by a relative clause, assigns a non-definite value determination to the noun, e.g., *a-rgaz₁-nna₂* 'any₂ man₁ (i.e. 'no matter who he may be')'.

Determination by the invariable demonstrative suffix *-a*, which itself is speaker-oriented by default even if not followed by a deictic (*a-rgaz-a* 'this man'), may or may not be emphasized by an orienting deictic, common to nouns and verbs, *-d* or *-nn*, e.g., *a-frux-a-d* 'this boy here' (proximal) vs. *a-frux-a-nn* 'that boy over there' (dystal).

The determination of nouns may also be expressed by an adjective or a relative clause, e.g., *t-sdid₁ t-frux-t₂* 'the girl₂ <is> slender₁' vs. *t-a-frux-t₁ t-usdid-t₂* 'the slender₂ girl₁' or *t-a-frux-t₁ i-sdid-n₂* 'the girl₁ <who> is slender₂ (PTCP)'. With determination by a relative clause, the REL-relative element may be dispensed with, e.g., *bnadm₁ i-skirkis-n₂ i-ga₃ war-atig₄* 'a person₁ <who> lies₂ (PTCP) is₃ worthless₄'. This option holds only in the case where the REL-element is not the head of a non-restrictive relative clause, otherwise the determiners *lli*, *nna*, or *da* must serve as overt REL-elements, e.g., *rbbi₁, lli₂/da₂ i-xlq-n₃ kiwan₄, i-sfaw₅ akk^w₆* 'God₁, who₂ created₃ everybody₄, is omniscient_{5/6}', literally: "... sees₅ all₆").

3.3 Syntax

3.3.1 Constituent ordering

As in other Berber dialects and in many Semitic languages, the basic surface ordering of constituents in a Tashlhiyt sentence is VSO: *i-!yra₁ u-!mhdar₂ t-a-bra-t₃* '<the> pupil₂ read₁ <the> letter₃'. The exact syntactic status of what is commonly considered in the Berber group as a syntactic subject (*u-!mhdar* in the example) is still subject to debate (cf. Galand 2002: 287-307; Ouhalla 1989;

Labdellaoui 1997; Elmedlaoui 1998a, 2001).⁵⁵ In fact, this constituent is not in a complementary distribution with a personal pronoun realized lexically. Thus, a phonetically not realized personal pronoun is only supposed for example when the word for “pupil” (*a-!mħdar*) becomes a mere implicit antecedent: *i-!yra₁ t-a-bra-t₂* ‘<he> read₁ the letter₂’. In other words, the verbal form is in itself a complete statement implying a pronominal subject, which is lexically null. The word *u-!mħdar* in the previous sentence (*i-!yra u-!mħdar t-a-bra-t*) thus seems to be a NP in apposition, dislocated to the right of the verb and supposedly replaced by a phonetically null resumptive pronoun, for which it stands as a dislocated antecedent. The proof is that when the object NP is dislocated to the right or topicalized to the left of the verb, a phonetically realized resumptive pronoun appears, e.g., *t-a-bra-t₁, i-!yra₂-tt₃ u-!mħdar₄* ‘<the> letter₁, <the> pupil₄ read₂ it₃’. By contrast, such a pronoun does not appear when the word for “pupil” in the preceding basic example is topicalized *a-!mħdar₁, i-!yra₂-Ø t-a-bra-t₃* ‘<the> pupil₁ <, he> read₂ <the> letter₃’.

The above-mentioned phenomenon in Kabyle (see section 3.2.2.2 above), where the so-called subject (*u-!mħdar* in our last example) may even be dislocated to the extreme right of the sentence in an apparent VOS construction and still remains in the construct state, is another fact that justifies the questioning of the real syntactic status of the traditionally termed “subject” in the Berber VSO constructions. However, for convenience of presentation, we continue to refer to *u-!mħdar* as subject in such constructions as *i-!yra u-!mħdar t-a-bra-t*.

As with Classical Arabic prepositional clauses, sentences lacking any overt verb are common in Tashlhiyt (as well as in other Berber variants). Thus: *dar=ħmad* ‘at Hmad’s’ (*dar* is the equivalent of *chez* in French or ‘*inda* in CA) vs. *dar₁=i₂ t-a-saru-t₃* ‘at₁/with₁ me₂, <the> key₃’ (i.e. ‘I have the key’); *ur dar=i t-a-saru-t* ‘I do not have the key’; *mra dar=i t-a-saru-t* ‘if I had the key’; *mra ur dar=i t-a-saru-t* ‘if I had not the key’. The prepositions whose prepositional pronouns (PPro) may be predicative and serve as verbs in verbless clauses are *dar=* ‘French “chez”’ and *y/g=* ‘in, at’. The predicative implicit verb in such con-

55 Clues from Kabyle syntax in particular, such as those alluded to in section 3.2.2.2 concerning the construct state, led Galand (2002: 115) to consider the constituent “S” in the Berber VSO clause as a NP dislocated to the right (“nom en apposition”), coindexed with the personal marker of “V”, which is the true syntactic subject, hence Galand’s denomination of the apparent “S” as a “complément explicatif” (see Galand 2002: 287-307 for details). This means that Berber is typologically a null-subject language with a rich agreement constituent of the verb.

structions is an existential verb with its four thematic forms (cf. Table 4): *lla*, *lli*, *ili*, and *tt-ili* ‘to be there’. As in Classical Arabic, when a verbless clause is assigned an imperfect aspect or a [–indicative] mood value, the implicit verb must be made phonetically explicit in Tashlhiyt: *ur₁ a(r)₂ dar₃=i₄ tt-ili₅ t-saru-t₆ γ₇=u-zal₈* ‘<usually₂, the> key₆ is not₁ existing₅ with₃=me₄ during₇=the day₈’, i.e. ‘I usually don’t have the key with me during the day’.⁵⁶

In Berber, the adjective always follows its head noun and agrees in number and gender, e.g., *a-frux₁ usdid₂* ‘the slender₂ boy₁’, *t-a-frux-t₁ t-usdid-t₂* ‘the slender₂ girl₁’, *t-i-frux-in₁ t-usdid-in₂* ‘the slender₂ girls₁’. In Tashlhiyt, the majority of verbs maintain a derivational relationship with corresponding stative verbs, e.g., *sdid* ‘to be slender’ and *usdid* or *usdad* ‘slender’, hence *t-sdid₁ t-frux-t₂* ‘the girl₂ <is> slender₁’ vs. *t-a-frux-t₁ t-usdid-t₂* ‘the slender₂ girl₁’ (cf. section 3.2.2.4). Some derived adjectives are morphologically templatic. The template /uCCiC/, for instance, yields *usdid* ‘slender’ from *sdid* ‘to be slender’ or *uyzif* ‘long/tall’ from *γzzif* ‘to be long/tall’.

3.3.2 Syntactic movement of constituents in the sentence

3.3.2.1 Full categories movement

Besides topicalization, by which any NP of the sentence (VSO-structure and prepositional phrase) may be extracted to the left, relativization is another aspect of the NP movement to the left in Tashlhiyt. Except for the explicative relative clause, where the determiners *lli* and *da* may function as relative pronouns (cf. section 3.2.2.4, last paragraph), the relative pronoun in Tashlhiyt and in many other Berber variants is phonetically null: *t-a-bra-t₁ Ø i-γra₂ u-!mħdar₃* ‘<the> letter₁ <that the> pupil₃ read₂’. As this example shows, the extraction to the left of the object through relativization does not result in a resumptive pronoun that fills its trace as is the case with topicalization. On the other hand, the relativization of the subject-NP may trigger the so-called “participial form” of the verb (see section 3.2.1.2.) *a-!mħdar₁ i-γra-n₂ t-a-brat₃* ‘<the> pupil₁ <who> read₂ (PTCP) <the> letter₃’.

As pointed out above, Kabyle exhibits a constituent movement where the object is interposed between the verb and the subject, thus forming a VOS-sur-

56 Overtly verbless clauses in Tashlhiyt are reminiscent of copula-less clauses in CA, where the copula reappears obligatorily when time/aspect values are assigned (*al-ğawwu ṣaḥwun* ‘the weather <is> fine’ vs. *kāna l-ğawwu ṣaḥwan* ‘the weather was fine’; the verbless clause: *‘ind-ī miftaḥun* ‘I have a key’ (“with me is a key”) vs. *kāna ‘ind-ī miftaḥun* ‘I had a key’ (“a key was with me”).

face ordering construction, while the subject still remains in the construct state, e.g., *i-žamma*₁ *a-drim*₂ *w-uhriš*₃ ‘a clever <person>₃ amasses₁ money₂’. As a direct observer, I have never witnessed such a phenomenon in Tashlhiyt data (spoken or written), but as a Tashlhiyt native speaker, I do not exclude it at all.

As to its syntactic structure, the cleft construction in Tashlhiyt is just a special manifestation of relativization. For instance, any bracketed constituent [X] or {Y} in the examples (3) (i) or (ii) below could be syntactically extracted and semantically emphasized to indicate that it is the true referent upon which predication bears, and not any other possible, alleged, or presupposed referent. Cleft extraction gives rise to a phonetic REL-element *ad*, which stands as a head of the following clause, its coindexed antecedent being the topicalized element. Extraction out of the domain of a completive clause (the domain {...} in (ii) below) gives rise to the contraction of *ad* to *(d)s*, which is a fusion of the REL-element *ad* and the [–question] complementizer *is*. It also gives rise to a resumptive pronoun which obeys clitic movement rules.

(3) Examples of NP left movement in Tashlhiyt

(i) *i-swa*₁ [*u-frux*]₂ [*atay*]₃ $\gamma_4=[w-ur\bar{t}i]$ ₅ (VSO-PP)

‘<the> boy]₂ drank₁ [tea]₃ in₄=<the> orchard]₅’

a-frux, *ad* (REL) *i-swa-n atay* $\gamma=w-ur\bar{t}i$

‘<It was> the boy that drank tea in the orchard’

a-tay, *ad* (REL) *i-swa u-frux* $\gamma=w-ur\bar{t}i$

‘<It was> tea that the boy drank in the orchard’

ur\bar{t}i ad (REL) $\gamma=\emptyset$ *i-swa u-frux atay*

‘<It was> in the orchard that the boy drank tea’

(ii) *i-ra*₁ [*u-frux*]₂ {*ad*₃ (REL / COMP) *i-su*₄ [*atay*]₅ $\gamma_6=w-[ur\bar{t}i]$ ₇}

‘<the> boy]₂ wants₁ {[to₃ drink₄ [tea]₅ in₆ <the> orchard]}’

a-frux ad (REL) *i-ra-n ad* (COMP) *isu atay* $\gamma=w-ur\bar{t}i$

‘<It is> the boy, who wants to drink tea in the orchard’

atay a(d)s (REL / COMP) *i-ra u-frux ad*(COMP)=*t i-su* $\gamma=w-ur\bar{t}i$

‘<It is> tea, that the boy wants to drink <it> in the orchard’

ur\bar{t}i a(d)s (REL / COMP) *i-ra u-frux ad*(COMP)=*gi-s i-su atay*

‘<It is> the orchard, that the boy wants to drink tea in <it>’

The X-element extracted by cleft construction acquires the emphatic predicative feature: [It is ‘X’ (<and not ‘Y’>)]. This predicative feature is null phonetically in affirmative cleft constructions as in the examples above. In inter-

rogative or negative cleft constructions, it is phonetically marked with a predicative copula *d'* that marks the extracted element next to the [+question] complementizer *is* or to the negative particle *ur*, e.g., *is d'atay ad i-ra u-frux ad i-su γ=w-urti?* 'Was it tea that the boy wants to drink at the orchard?'). This predicative particle is also phonetically realized in pseudo-cleft constructions (see Elmedlaoui 1999: 62-63, 72-76; Galand 2010: 232-234):

(4) Examples of the *d'*-copula appearing in cleft constructions

(the diacritic "'''' next to the *d'*-copula is but an orthographic device)

is d'atay ad i-swa u-frux γ=w-urti

'Was it tea that the boy drank in the orchard?'

ur d'atay ad i-swa u-fru γ=w-urti

'It was not tea that the boy drank in the orchard'

ad i-swa u-frux γ=w-urti d'atay

'What the boy drank in the orchard was tea (i.e. not something else').

3.3.2.2 Clitic movement and phonetically empty elements

Another interesting syntactic movement in Tashlhiyt is the clitic movement (see Dell and Elmedlaoui 1989). Clitics move to the left within the clause with respect to the verb and attach to the right of any available element of the "host" syntactic category. Here is the list of Tashlhiyt clitics, given in the order in which they attach to their host when they are multiple (>> is to be read: "precedes in order"): "pied piped" preposition >> dative pronoun >> object pronoun >> deictic element >> adverb >> prepositional pronoun.

Attachment of a clitic to its immediate host is so tight morphosyntactically that the last segment of some hosts (the modal *ad* for example) is totally assimilated to the first segment of the attached clitic. The syntactic preverbal categories which function in general as hosts for clitics are those given below in their order of priority to host when they are more than one (>> is to be read: "has priority over"): filled complementizer position >> empty complementizer position (e.g., phonetically null-REL) >> negative particle >> verb.

The phonetically null relative element is one such empty complementizer. In the example (5) below, the relativization of NP 8 in the first line creates an empty category \emptyset as a coindexed trace in its place. The pronominalization of the NP (4) and the PPs (5=6, 9=10) of the first line gives rise to three prepositional pronouns in the third line. Line three of (5) shows how the "pied piped" preposition *γ=*, whose argument (*ssnduq*) is relativized, moves together with the

three prepositional pronouns as well as with the deictic $=d$ to attach to the head of the relative clause in the order given in (4) above. In the following examples, $=d$ is a deictic element expressing the speaker's centripetal direction; we gloss it approximately with 'here'.

(5) Examples of clitic rising in Tashlhiyt

- $y-uzn_1=d_2$ $u-frux_3$ $i-bzg-n_4$ $i_5=t-frux-t_6$ $\gamma_7=ssnduq_8$ $d_9=y-idir_{10}$
 'the boy₃ sent₁ <here>₂ the bracelets₄ in₇ the chest₈ with₉ Idir₁₀ to₅ the girl₆'
 ha_{11} $ssnduq_8$ $\gamma_7=\emptyset=a_5-s_6=tn_4=d_2di_9-s_{10}$ $y-uzn_1$ $u-frux_3$
 'this is₁₁ the chest₈ in₇ which the boy₃ sent₁ them₄ <here>₂ with₉ him₁₀ to₅ her₆'

Elements that can fill the complementizer position are the following, among others: the modal particle $a(d)$, the [\pm question] complementizer is , the [\pm question] wh-element $ma(d)$, the absolute-conditional conjunction iy 'if (ever)', the non-met-condition conjunction mra 'if (only)', the concessive adverbs $mqqar$, $waxxa$ 'OK, even if', the option-conjunction niy 'or', certain temporal adverbs hra 'just (temporal)', $urta$ 'not yet', $ag^w nna$ 'when(ever)', etc. (cf. Dell and Elmedlaoui 1989). The complimentizer position can also be doubly filled as in the following example (here, complementizer-filling elements are is [+ question] and $mqqar$ 'OK'):

- (6) is_1 $mqqar_2=ak_3$ $\gamma_4=yri-\gamma_4$ $askka_5$ 'Is it OK₂ <that> I call₄ <to> you₃ tomorrow₅?₁'

Further examples of clitic movement in Tashlhiyt include the following:

(7) More examples of clitic movement in Tashlhiyt

- a. $t-ga_1$ $t-frux-t_2$ $i-bzg-n_3$ $\gamma_4=ssnduq_5$ 'the girl₂ put₁ the bracelets₃ in₄ the chest₅'
- b. $t-ga=tn$ $t-frux-t$ $\gamma=ssnduq$ 'the girl put them in the chest'
- c. $is=tn$ $t-ga$ $\gamma=ssnduq$ 'did she put them in the chest?'
- d. $is=tn=gi-s$ $t-ga$ 'did she put them in it?'
- e. $ur=tn=gi-s$ $t-gi$ 'she didn't put them in it'
- f. $is=tn=gi-s$ ur $t-gi$ 'didn't she put them in it?'
- g. $ssnduq$ $\gamma=\emptyset=tn$ tga 'the chest in which she put them'
- h. $ssnduq$ $\gamma=\emptyset=tn$ ur $t-gi$ 'the chest in which she didn't put them'
- i. $ta-frux-t$ $\emptyset=tn$ $i-ga-n$ $\gamma=ssnduq$ 'the girl who put them in the chest'
- j. $ta-frux-t$ $\emptyset=tn=gis$ $i-ga-n$ 'the girl who put them in it'
- k. $ta-frux-t$ $\emptyset=tn=gis$ ur $i-gi-n$ 'the girl who didn't put them in it'

As explained above, the verb *t-ga / t-gi* takes the participial form in the last three examples (i., j., k.), as a consequence of the relativization of the subject *t-frux-t* ‘girl’.

Examples g.-h. above illustrate the fact that Tashlhiyt, like other Berber variants as well as the Semitic languages in general, does not permit a stranded preposition as does English, e.g., *this is the pen I wrote with* Ø. In Berber, a preposition, whose argument is relativized, is “pied piped” by the movement of its argument, the phonetically null *wh*-element (Ø); it fills the complementizer position, thus becoming a phonetic host for eventual clitics.

Unlike in Semitic, where a preposition whose argument is relativized always takes its overt resumptive pronoun as a substitutive argument,⁵⁷ the substitutive pronoun appears phonetically as a resumptive prepositional pronoun in Tashlhiyt only when the prepositional phrase belongs to a complement clause. Otherwise, the substitutive pronoun remains a phonetically null pronoun (Ø) in this language:

(8) “Pied piped” prepositions in Tashlhiyt

ssnduq₁ γ₂=Ø t-ga₃ t-frux-t₄ i-bzg-n₅

‘the chest₁ in₂ <which> the girl₄ put₃ the bracelets₅’

ssnduq₁ s₂ t-ra₃ t-frux-t₄ [ad₅=gi₆-s₇ t-g₈ i-bzg-n₉]

‘the chest₁ in₆ which_{2/7} the girl₄ wants₃ to₅ put₈ the bracelets₉’

3.4 Lexicon

3.4.1 Overview

The morphological pattern of a root \sqrt{X} (X : a cluster of consonants including *w*, *y*) applied to a prosodic CV-template as in Semitic, which may include certain affixes, is a pattern, which prevails in an important portion of the Berber lexicon in general and in the Tashlhiyt lexicon in particular. This scheme can be suggested as a basis for the lexicographical organization of the dictionary, e.g., \sqrt{krz} : *i-krz* ‘he ploughs’, *ar i-kkrz* ‘he is ploughing’, *ur i-kriz* ‘he did not plough’, *i-ttu-kraz* ‘it was ploughed’, *a-m-kraz* ‘ploughman’, *t-a-krza* ‘ploughing’, *a-s-krz* ‘ploughshare’.

57 CA: *al-qalamu lladī katabtu bi-hī*; Hebrew: *hā-‘ippārōn še b-ō kātābtī* ‘the pen Ø I wrote with’ (stranded preposition) vs. ‘the pen with which I wrote’ (pied piped preposition).

However, a significant portion of the lexical stock is hardly manageable according to this pattern, in which the primary lexical entry is exclusively a string of consonants and glides. The vowels that appear as such on the surface in Berber do not always have a mere morphological status, nor are they always unambiguous as to the phonological status of underlying vowels. In Tashlhiyt, for instance, an alleged root such as \sqrt{zr} could not be adequately assigned in the dictionary as a primary entry for *zri* 'to pass', *zra* 'to delouse', *zur* 'to be fat', *i-zri* 'rosmarine', *azar* 'fig tree', *a-zur* 'roof', *azzar* 'hair', *t-azzrt-t* 'sieving fork', *a-m-azzr* 'waterfall' (cf., e.g., the entries under *zr* in Taifi's (1991) Middle Atlas Berber dictionary). As another example, if we examine the lexical entry \sqrt{D} in Dallet's (1982) Kabyle-French dictionary, an arbitrary entry with no common semantic content, under which a considerable number of real lexical entries are accommodated and developed, we realize the importance of the lexical material in Kabyle Berber as well, where vowels indeed have a lexical status and not only a morphological function. This has already been underlined by Chaker (1984: 250).

The anthropologically relevant structuring of reality through the Berber lexicon varies according to the Berber group in question, depending on whether it is predominantly a pastoral, agricultural, craft, or trading society. For example, in the Tahaggart dialect of the Touareg society in the Sahara, where the various nouns that subcategorize details of camels occupy three of the 500 pages of the French-Touareg dictionary by Cortade and Mammeri (1967), no entry is found in this dictionary for either "plough" or "to plough". This contrasts with the importance of agricultural and weaving items in the Tashlhiyt and Kabyle lexica. Many anthropolinguistic peculiarities that characterize Semitic languages are also known in Berber. In addition to gender idiosyncrasies among inanimate and abstract nouns (the words for "moon", "star", "water", and "earth" are masculine, while "sun" and "fire" are feminine), the domain of colors reflects a great perceptual confusion (black/green, green/blue, as in Old CA). Thus, as in Old CA (*as-samā' al-ḥaḍrā'*, lit. "the green sky"), both "grass" and "sky" are said to be *a-zgza(w)* or *a-ziza(w)* 'green = blue' in Berber.

Acculturation also leaves its imprint on the Berber lexicon in different ways and in various degrees. For example, among the main Berber variants, very few, such as Tashlhiyt, still have native terms for cardinal numerals from one to ten, and among Tashlhiyt subdialects, only ITB and some other subdialects in the Western High Atlas still make use of the old native terms for "hundred" and "thousand", though only in counting nuts (*t-i-!midi* 'hundred', *sna-t t-!mad* 'two

hundreds'; *!ifd* 'thousand', *sin w-!afd-an/* 'two thousands'.⁵⁸ The Saharan Touareg lexicon remains the richest in native abstract vocabulary, in comparison with the Berber variants of the littoral. These last dialects evolved, in fact, in an ancestral system of multilingualism, where the functions of intellectual abstraction and ideological discourse have been progressively taken over by other languages of higher regional and/or sociolinguistic status (cf. Elmedlaoui 2006b). These valued functional languages thus have become, for the different variants of Berber, permanent sources of loans. These loans are most often redundant terms, but with so more valued connotations that they end up, most of the time, by supplanting the native Berber synonyms.

The lexica of certain Berber variants such as Touareg, Tashlhiyt, and Kabyle display signs of an embryonic emergent metalinguistic and educational terminology, e.g., Tashlhiyt *a-skil* 'letter of the alphabet'; *id-lif* 'alphabet'; *a-g^wmmay* 'spelling'; *a-hssu* 'memorization'; *t-a-yudi* 'studying session'; *t-irra* 'writing'; *a-mhhas* 'marking vowels in writing'; *t-a-guri* 'word'; etc. It is on the basis of a common vocabulary drawn mainly from those three educational traditions that Mouloud Mammeri (1976) coined the necessary metalinguistic terminology for his Kabyle grammar handbook *tajerrumt n tmaziyt*, the first known grammar of a Berber language to be composed in a Berber language (see Elmedlaoui 1998a, 2001 for two reviews).

3.4.2 *The Berber lexicon, and Semitic, within an Afroasiatic perspective*

Given the different historical cycles of geo- and sociolinguistic mergers and separations among this super-family, and given the internal dynamics of successive systems of constraints and *états de langue* that marked the different groups and subgroups and shaped, at every stage, any received external element, serious comparative linguistics can only expect common elements to be different as to their phonetic forms in different groups and stages. Systematic phonetic correspondences are then to be established according to (sub-)groups and stages. As an introduction to the following sample of Semitic-Berber lexical

58 The numerals *t-i-!midi* '100' and *!ifd* '1000', now vanished from the western High Atlas in Morocco, are mentioned several times in the *bahr ad-dumū* ('Ocean of Tears'), a Tashlhiyt religious poem composed by the anti-Atlas native religious, Muḥammad ibn 'Alī al-Hawzālī in the early 18th century (cf. Boogert 1997: 311-347).

comparison, let us in the following roughly sketch some assumptions about such correspondences:⁵⁹

Following the proposal of Agmon 2010 (summarized in Lowenstamm 2010), the best way to provide a broad chronological picture is to organize the data according to the main socio-cultural and historical changes (hunting-gathering, shepherding, agriculture, the rise and expansion of religious systems, great migrations, etc.). For, in addition to the internal phonological evolution of any language-A system, the same etymological entity from this language A is liable to undergo different changes at the different stages where language A interferes, either as adstratum or substratum, with language B according to the systems of constraints specific to each of the two languages at the period in question. It is common to find the same etymological element from language A entering language B under different forms, according to the successive *états de langue* of language A and language B, in which they come into contact.⁶⁰ Here are some facts about Berber and Semitic to be considered in lexical comparison:

- (i) In Old Berber, *ɣ* and *qq* are the simple and geminate variants, respectively, of the the same uvular phoneme.
- (ii) Present Berber has lost its old generation of vowels (cf. Elmedlaoui 1990, 2000), the current ones being derived from corresponding old *glides (or < **velars/gutturals; cf. Elmedlaoui 2000).
- (iii) Having two points of articulation (i.e. a coronal and a guttural one), emphatic coronals may correspond according to the period and path of evolution, either to coronals (emphatic or not) or to posteriors /q, ɣ, g, ħ, ʕ/. The case of Semitic coronal emphatics that systematically correspond to /q/ (and later to

59 Whether the Berber-Semitic relation is a genetic one or a mere product of permanent contacts and convergence (cf. Edzard 1998) is irrelevant to the necessity of such laws. For a concrete illustration of how internal constraints (namely, some Berber substratum) determined the phonetic shapes of the Semitic *g in Moroccan Arabic, see Elmedlaoui 2011.

60 Consider, e.g., the word **Qarʿa* in Arabic/P1 (P1 = a period when the Semitic uvular stop /*Q/ was still voiced in Old Arabic) yielded *grʿa* ‘pumpkin (used, once dried, as a receptacle for oils)’ in the Bedouin Arabic of P1, a period when Berber was still lacking the non-geminated uvular voiceless stop /q/. While the same etymological element of Arabic/P2 (a period when the Semitic uvular stop *Q became devoiced in Arabic) yields *qrʿa* ‘bottle’ in the urban MA/P2, a period when the non-geminated uvular stop /q/ acquired a phonemic status in Berber (see Elmedlaoui 1998b). By modern commercialization of urban manufactures (namely glass bottles) in the countryside, where /g/ (< *Q) is still alive, the majority of present MA variants acquire two lexical words which stem from the same etymon, but are phonetically and semantically distinct: *grʿa* ‘pumpkin’ and *qarʿa* ‘glass bottle’.

/ʿ/) in Aramaic is well known, e.g., CA ʿard; Heb. ʿereš, vs. Aram. ʿarqā > ʿarʿā vs. MA ʿrəgg ‘earth’. The Berber lexicon also shows the same dialectal varieties: !ldeɖ = lyey = lqqey = lgg^way = !lzw ‘to be tender/ soft’ (vs. Heb. √rkk, CA √rhw ‘to be tender/soft’); Ber. !zda / !zyw / !zqw ‘to construct, to weave’, a-ztta ‘weaving’, ta-!skka ‘fork used to press weft across warp’; Tashlhiyt sqql = !sttl ‘to shave’; a-!bzzig / i-!bzɖ-an ‘urine: SG/PL’; !rsɖ / !rzg ‘to be bitter (fruits)’; i-m-!rsid / i-m-!rzig ‘bitter (fruits)’; i-!mtti ‘tear’ vs. i-mqqi ‘drop’.⁶¹ Furthermore, the manner of articulation [continuance, sonority] may change and emphasis may be lost (e.g., the lateral ɖād in CA dialects: √fɖɖ = √fll, etc. ‘to split’; √ɖmm = √lmm ‘to put together’; ɖḡḡ = lḡḡ ‘to make noise’ (CA /ɖ/ was a lateral emphatic obstruent).

(iv) The Proto-Berber phonological system lacking laryngo-pharyngeals (cf. Galand 2002: 33), as was the case in Akkadian under the impact of its Sumerian substratum and in North African Punic as opposed to Phoenician, the Berber lexicon responds to that subclass of Semitic gutturals with zero (e.g., Arabic *dirham* ‘Dirham’ vs. Tashlhiyt *a-drim* ‘coin, money’; Semitic ʿabrāhām / ʿibrāhīm ‘Abraham’ vs. Tashlhiyt *braym*) or with glides *w/y* (most of times, realized as corresponding new generation of vowels *u/i*, as stated above in ii).

(v) As is systematically the case in CA and Hebrew with the initial labial *w* in derived nouns (CA *wasina* ‘to sleep’ > *sina* ‘sleep’), Berber sometimes drops the stem initial labials /b, f, m/ (Berber *fka* – *akka* ‘to give: PRF/IPF’; Hebrew *bašālīm* ‘onions’ > Berber *a-!zalim* ‘onion’; Latin *febrarius* > Berber *!brayr* ‘February’).

(vi) As also in Semitic (Moscatti 1964: 25-26), the labials /b, m, w/ interchange in Berber, as does the flat class of segments /w, g, b, f/ in general (see Elmedlaoui 1990, 1994); thus, Touareg Berber responds with *b* to a substantial portion of Tashlhiyt *m* occurrences. The word for “door” varies in Berber between *t-agg^wr-t* (Tashlhiyt), *t-awwar-t* (Tarifit), and *t-abb^wr-t* (Kabyle), and /b/ systematically yields [f] by devoicing assimilation in some Tashlhiyt subdialects: *bsi* = *fsi* ‘to unknot, to loose, to dislocate’; *bsr* = *fsr* ‘to spread, to lay out’; *t-!uttib-t* = *t-!uttif-t* ‘small piece (of sugar-like material)’.

(vi) As in Semitic, the sonorants /r, l, m, n, w, y, ʾ, ʿ/ in Berber serve as material for root extension connotating different aspectual values; hence, for example, the different manifestation of the Semitic etymon √GD (G: an uvular or a velar, and D: a coronal obstruent), with its cover meaning of “to cut” with different

61 See Elmedlaoui 1995a: for the phonology of this kind of possible phonetic change: *ɖ* > *q* > ʿ/g/d.

aspectual shades conveyed by sonorant affixation (mostly in the second and/or third position), e.g., CA: $\sqrt{q\dot{s}s}$, $\sqrt{q\dot{s}m}$, $\sqrt{q\dot{s}ml}$ = $\sqrt{q\dot{d}d}$, $\sqrt{q\dot{d}m}$, $\sqrt{q\dot{r}d}$, $\sqrt{q\dot{r}dm}$, $\sqrt{q\dot{r}db}$ ($m > b$) 'to cut (with different aspects of cutting)'; Hebrew \sqrt{gzz} 'to shear', \sqrt{gzy} 'to cut from', \sqrt{gzm} 'to prune', \sqrt{gZR} 'to cut up/out'; etc. (cf. Elmedlaoui 1990, 1994). (vii) The correspondence $g \approx \check{z}$, $l \approx \check{r}/\check{d} \approx d$ is found in in Berber and sporadically in Semitic, e.g., CA \sqrt{lbn} '(sour) milk' vs. $\sqrt{\check{g}bn}$ 'curd'; *lwn* vs. $\check{g}wn$ 'color'; *lawz* 'almond' vs. $\check{g}awz$ 'nut'; *la'iba* = *da'aba* 'to play, to jest, to joke'.

In the section below, we give a raw sample of Berber-Semitic lexical correspondences. As the lexical interference between Berber and Semitic goes far back before the rise of Islam, the great amount of what is commonly admitted as Berber loans from post-Islamic Arabic is ignored here, as it does not convey significant new historical information, nor does it show substantial phonetic change, apart from Semitic / \check{s} , \check{t} / > Berber / \check{z} , \check{d} / and the loss of gutturals in Berber.

3.4.3 Elements of Semitic-Berber lexical comparison

3.4.3.1 Body parts and features

Semitic	Berber
CA $\sqrt{q\dot{s}}$ 'to braid (hair)',	Ber. <i>a-kyud</i> 'hair braid'
Heb. <i>garger-et</i> , <i>gar-ōn</i> 'throat'	Ber. <i>a-grgur</i> 'throat'
Heb. <i>gerem</i> 'bone'	Ber. <i>a-krum</i> 'backbone'
CA $\check{g}ult-a$ 'coagulated piece';	Ber. <i>ta-galid-t</i> 'leg's calf'
Sem. <i>dam</i>	Ber. <i>i-damm-n</i> (pl.) 'blood'
Sem. \sqrt{hlb} 'milk'	Ber. <i>ulbu</i> 'milk of women'
CA <i>hanak</i> , Heb. <i>hēk</i>	Ber. <i>anya</i> 'hard palate'
Heb. <i>hōšen</i> 'bosom'	Tashlhiyt <i>!uzun</i> 'median line/zone'
Heb. <i>kily-ā</i> 'kidney'; CA <i>kulw/y-a</i> 'kidney'	Ber. <i>a-glāy</i> 'testicle'; Tashlhiyt <i>ta-glāy-t</i> 'egg'
Sem. $\sqrt{lhš}$ 'to lick', <i>lāš-ōn</i> 'tongue'	Ber. <i>ils</i> 'tongue'
CA \sqrt{lfz} 'to spit'	Ber. <i>i-!lfz</i> 'saliva', <i>a-lufs</i> 'spit', <i>s-lufs</i> = <i>ss-ufs</i> 'to spit'
Phoen./Pun. <i>pas</i> 'tablet';	Ber. <i>a-fus</i> 'hand'
Aram. <i>pas</i> 'palm of hand'	
CA <i>qihf</i> 'upper skull'	Ber. <i>ixf</i> 'head'
CA <i>qalb</i> , <i>lubb</i> , Heb. <i>lēb</i>	Ber. <i>ul</i> / <i>ulaw-n</i> 'heart/s'
CA <i>qillit</i> 'swollen testicle'	<i>a-!wld</i> 'testicle'
Heb. \sqrt{qmr} 'to curve'	Ber. <i>ti-ymr-t</i> 'corner, elbow'

CA *qaṣṣ* 'breastbone';

CA 'uṣ' 'coccyx'; Heb. 'āṣe 'coccyx'

Sem. √š 'r' 'hair'

Sem. *yad* 'hand'

Ber. *i-yss* 'bone'

Ber. *a-zzar* 'hair'

Ber. *ta-yd-t* 'arm'

3.4.3.2 Features of nature

Semitic

CA *barr* 'open country'

CA *ḡarww* 'air'

Berber

Ber. *brra* 'outside'

Tashlhiyt *a-ḡarwwu*, *a-zwu* 'wind',

ta-gu-t 'fog', *a-ggu* 'smoke',

a-!du / *i-dagg^w-n* 'wind/s'

Ber. *a-ma-n* (pl.) 'water'

Ber. *a-!nzar* 'rain'

Ber. *a-yyis a-g^wmar* 'white horse',

Ber. *a-šmlal* 'white'

Ber. *ta-wrir-t* 'hill'

Ber. *a-wray* 'yellow'

Heb. *mayim* (pl.) 'water'

CA, Heb. √nzl 'to drop, to flow'

CA √qmr 'to be intensely white',

CA *qamar* 'moon'

CA *qāra* (√qwr) 'hill'

CA *waraq* 'leaf'; Heb. *yārōq* 'green'

3.4.3.3 Basic activities and states

Semitic

CA √'ḡl 'to hasten'

Berber

Tashlhiyt *uzzl* 'to run',

gula 'to hasten'

Ber. *!gddr, xatr* 'to be great'

Ber. *dhi* 'to push'

Ber. *zwa* 'to dry'

Ber. *!gid* 'to choke over one's drink'

Ber. *lul* 'to start appearing (new moon), to be born'

Ber. *uru* 'to give birth',

tt-arū 'to be pregnant'

Ber. *hrš* 'to be sick'

Ber. *nya* 'to kill'

Ber. *uga* / *agu* 'to be empty'

Ber. *a-gnsu, a-g^wns* 'inside, interior'

Ber. *ta-dkmi-t* 'mouthful'

Heb. √gdl 'to become great'

Heb. √dhq 'to push'

CA √dwy 'to wither'

CA √yṣṣ 'to choke over one's food'

CA √hll 'to start appearing (new moon)'

Heb. √hwr 'to be pregnant'

Heb. √hlš 'to be weak'

CA √xnq; Heb. *ḥnaq* 'to stangle'

CA √xwy 'to be empty, to desolate/waste'

Heb. √kns (nif'al) 'to go in, to enter'

CA √lqm, √lhm; Heb. *lhm* 'to swallow';

CA *luqm-a, ḡuym-a* 'mouthful'

CA \sqrt{msw} 'night'	Ber. <i>nsa</i> 'to spend the night, to get back to his/its shelter by night'; <i>a-nsa</i> 'burrow, place'
Sem. \sqrt{mwt} 'to die'	Ber. \sqrt{mwt} 'to die'
CA \sqrt{nys} 'to disturb'	Ber. <i>a-!ngaz</i> '(childbirth) colic'
Heb. $\sqrt{n\dot{s}s}$ 'to sparkle'	Tashlhiyt <i>a-!ndgg^wig</i> 'spark' < <i>!ndw</i> 'to bounce'
Heb. $\sqrt{n\dot{s}y}$ 'to fly', CA \sqrt{nzw} 'to jump'	Tashlhiyt <i>!nda / !ndu</i> 'to jump'; <i>nda / ndu</i> 'to be shaken (milk)'
CA \sqrt{qdr} 'to be able'	Tashlhiyt <i>!zdar</i> 'to be able'
CA \sqrt{qyl} 'to rest at noon'	Ber. <i>kla</i> 'to spend the day, to rest in a shadow; <i>a-s-klu</i> = <i>a-m-alu</i> 'shade'; Tashlhiyt <i>a-s-klu</i> , <i>a-m-alu</i> 'shadow'; <i>a-klu</i> 'colour'; <i>i-m-kli</i> 'afternoon's lunch'
CA $\sqrt{\dot{s}by}$ / Heb. <i>\dot{s}b</i> 'to dye'	Ber. <i>zwəy / zgg^way</i> 'to be red'
CA \sqrt{sqy} ; Heb. <i>\dot{s}qy</i> 'to give to drink'	Ber. <i>swa</i> 'to drink'
CA \sqrt{tl} , Sem. $\sqrt{lw / y}$ 'to go up'	Ber. <i>yli, uly</i> 'go up'
CA \sqrt{wly} ; $\sqrt{l'q, \sqrt{lhs}}$ 'to lick, lap up';	Ber. <i>uly, lly</i> 'to lap up'
Heb. \sqrt{lqq} 'to lap'	
Heb. \sqrt{ytr} 'to survive'	Ber. \sqrt{ydr} 'to live, to survive'
CA \sqrt{zll} / Heb. $\sqrt{\dot{s}ll}$ 'to be dark/black'	Tashlhiyt <i>!dla</i> 'to be dark/black'

4 Tashlhiyt Berber texts

4.1 A prose sample

Atay 'tea' (Stroomer 2004: 122)

Orthographic transcription:

- (1) *ar nttasi aman, ng-t-inn y-!lmqraž,*
- (2) *ng-tn-inn y-iggi n-lkanun, arkiy y^wlin*
- (3) *nssird lkisan d-!ttbla d-lbrrad arkiy-tn kullu nssird,*
- (4) *!nZR argaz lli ifulkin y-ngr middn.*
- (5) *ma igan argaz ifulkin ? walli iqqnn !rrzza,*
- (6) *d-walli ilsan ttšamir, issili lk^wmmiyt iqqimn*
- (7) *d-idukan n-lždid; !lhasil, argaz ifulkin,*
- (8) *nf-as tazznbilt d-tassnduqt n-!sskk^war,*
- (9) *nf-as liqqamt, ar iskar atay; izzwur-nn atay, ig-t-inn y-igggi n-lkanun*
- (10) *ard !išħhr. aywa, ikkis-t-id, ibbi liqqamt s-tuzlin, ig-tt-inn,*

(11) *ig-as !sskk^war; ar ittɣllaf atay arkiy-t ixllf, !imdi-gis imikk.*

(12) *iy-as ur illi !sskk^war ig-as-nn yat !tuttif-t n-sskk^war; ixllf-t, yarm day is immim nyd uhu;*

(13) *yaf-t-inn immim, i-ffi atay i-mddn. ar ssan middn atay, inin-as: "barkllah- 'llik, a l-m 'llm".*

Morphosyntactic notation and translation: In the translation, the material between (...) is semantically redundant, and <...> a category with no lexical realization. In the morphosyntactic notation, the following additional conventions obtain: [*ar*: imperfect particle]; *tt*:- imperfect prefix; InV: initial vowel; Ppro: prepositional pronoun; and *l*:- the prefix of Arabic loan nouns. The roman digits refer to the verbal tense-aspect-mood forms in Table 4, i.e. I: affirmative perfect, II: negative perfect, III: aorist, and IV: imperfect.

(1) *ar n-tt-asi aman, n-g=tn=inn* $\gamma=l-!mqra\check{z}$,
 CONT 1PL-*tt*-take.IV water, 1PL-put.III=ACC.3PL=DEIC in=*l*-kettle
 we take (some) water, <and> we put it in a kettle

(2) *n-g=tn=inn* $\gamma=iggi$ *n=l-kanun, arkiy* $\gamma^{w}li-n$;
 1PL-place.III=ACC.3PL.M=DEIC in=above of *l*-fire, until boil.I-3PL.M
 <then> we place it on the fire until it is boiling (lit.: "has gone up";
 "water" is PL in Berber)

(3) *n-ssird l-kis-an d=t-!tbla d=l-brrad*
 1PL-wash.III *l*-cup-PL and=*l*-tray and=*l*-teapot
arkiy=tn=kullu n-ssird,
 until=ACC.3SG.M=all 1PL-wash.I
 <then> we wash the cups, the tray, and the teapot until all is washed,

(4) *n-!zr a-rgaz lli i-fulki-n*
 1PL-look.III InV.FS-man REL PTCP-be.handsome.I-PTCP.SG
 $\gamma=ngr$ *middn*.
 in=among people.PL.
 <and then> we look for the most handsome man among the people (present)

(5) *ma i-ga-n a-rgaz i-fulki-n ?*
 what PTCP-be.I-PTCP.SG InV.FS-man PTCP.-be.handsome.I-PTCP.SG ?

walli i-qqn-n r-!rzza,
 <the one> REL PTCP-tie.I-PTCP.SG *l-turban*

What is a handsome man ? (It is the one) who wears a turban,

- (6) *d=walli i-lsa-n t-tšamir,*
 and=REL PTCP.-wear.I-PTCP.SG *l-shirt,*
i-ss-ili l-k^wmmiy-t i-qqim-n
 <and> 3M.SG.-CAUS-gird.III *l-dagger-F.* PTCP.-be.precious.I-PTCP.SG.
 and who wears (a nice long) shirt and girds on a precious dagger

- (7) *d=i-duk-an n=l-ždid; l-!hasil : a-rgaz i-fulki-n,*
 and=InV-shoe-PL of=l-new; *l-in.short : InV.FS-man* PTCP-be.agreeable.I-PTCP.SG
 and <with> new shoes; in short, a nice(ly dressed) person,

- (8) *n-f=as t-azznbil-t d=t-assnduq-t n=s-!skk^war,*
 1PL-give.III=DAT.3SG.M F-box-F and=F-box-F of=l-sugar.
 we give him <then> the box (containing tea) and the box (containing) sugar,

- (9) *n-f=as l-iqqam-t; ar i-skar atay;*
 1PL-give.III=DAT.3SG.M *l-mint-F, <and>* CONT 3SG.M-make.IV *tea;*
i-zzwur=nn atay, i-g=t=inn
 3M.SG.-begin.III=DEIC *tea;* 3M.SG.-put.III=ACC.3SG.M=DEIC
y=iggi n=l-kanun
 in=above of=l-fire
 <and> we give him the mint. <Then> he starts making tea, beginning by
 (putting) the tea on the fire

- (10) *ardi-!šhhr, aywa, i-kkis=t=id,*
 until 3SG.M-boil.III, well, 3SG.M-take.away.III=ACC.3SG.M=DEIC,
i-bbi l-iqqam-t s=t-uzl-in,
 3SG.M-cut.III *l-mint-F* with=F-scissor-PL.F,
i-g=tt=inn,
 3SG.M-put.III=ACC.3SG.F=DEIC,
 until (it is brought to) boiling. Well, he <then> takes it away (from the fire),
 he cuts (some) mint with (a pair of) scissors <and> puts it (in the pot),

- (11) *i-g=as* *s-!skk^war;* *ar* *i-tt-xllaf* *atay*
 3SG.M-make.III=DAT.3SG.M *l-sugar;* CONT 3SG.M-tt-stir.IV tea
arkiy=t *i-xllf,* *i-!mdi=gi-s* *imikk.*
 until=ACC.3SG.M 3SG.M-stir.I, <then> 3SG.M-taste.III=in-PPRO.3SG bit.
 <and> adds sugar to it; he <then> stirs the tea (repeatedly by pouring it into
 a glass and back into the teapot) until it is stirred; <then> he tastes a bit of it.

- (12) *iy=as* *ur* *i-lli* *s-!skk^war*
 if=DAT.3SG.M NEG 3SG.M-be.there.II *l-sugar*
i-g=as=nn *yat* *t-!uttif-t* *n=s-skk^war;*
 3SG.M-make.III=DAT.3SG.M one F-piece-SG.F of=*l-sugar;*
i-xllf=t, *y-arm=day*
 3SG.M-stir.III=ACC.3SG.M, <and> 3SG.M-taste.III=again
is *i-mmim* *nyd* *uhu;*
 whether 3SG.M-be.sweet.I or not;
 if it has not (enough) sugar (for his taste), he <then> adds a (small) piece of
 sugar to it; stirs it, tastes again whether it is sweet or not.

- (13) *y-af=t=inn* *i-mmim,*
 3SG.M-find.III=ACC.3SG.M=DEIC 3SG.M-be.sweet.I,
i-ffi *atay* *i=mddn.*
 <and then> 3SG.M-pour.III tea for=people.PL,
ar *ssa-n* *mddn* *atay,*
 <and then> CONT drink.IV-3PL.M people.PL tea
ini-n=as : “*!barkllah ‘lik,* *a l-m ‘llm”.*
 say.III-3PL.M=DAT.3SG.M : , God’s blessing on you oh *l-master!*
 he (may) find it sweet (enough) <and then> he pours the tea out for the
 people. They drink it and say to him: “God’s blessing on you, master (tea
 maker)!”

4.2 A poetry sample (lines memorized by the author)

Morphosyntactic transcription: in cases of phonetic assimilation or vowel contraction or re-syllabification, phonetic transcription is given below the line.

- 1 *a* *l-bari,* *wa-lli* *y-akka-n* *i=i-yulid-n* *aman,*
 [niyyu]
 VOC *l-creator,* one-REL 3SG.M-endow:IV-PART to=InV-rock-PL water

- 1' Oh Creator, the One who endows rocks with water,
2' Who gives grass flowers, and the learned, words.
3' A hen wishes (certainly) it could fly and reach the seventh of the skies.
4' It's not feathers that it lacks; only God humbled it.
5' Even he became winged, one should not break it off with the Earth,
6' Because it's Life that constrains one to land.

Metrical syllabic scansion of lines

(H heavy syllable = 2μ ; L light syllable = 1μ ; /C~/: the first half of a geminate in a mora counting ambiguous position)

Table 10

	H	L	L	L	L	L	L	H	L	H	L	H
	1	2	3	4	5	6	7	8	9	10	11	12
1'	al	ba	ri	wal~	li	yak~	ka	niy	yu	lid	na	man
2'	if	ka	ma	tu	ga	žd	di	gif	kit~	tal	ba	wal
3'	zuz	du	ki	ya	wa	yɣ	li	xar	wis~	say	gn	wan
4'	ur	dr	ri	šat~	ti	xs	sa	nrb~	bat~	tis	dul~	lan
5'	iɣ	ya	di	la	ya	nr	ri	šaw	ri	zid	wa	kal
6'	aš	kud~	du	ni	ta	yt	ta	win	ya	nar	dit~	trs

References

- Afa, Omar [ʿAfā, ʿUmar]. 2009. *Baḥr ad-dumūʿ bi-l-luġatayn al-ʿamāzīgīya wa-l-ʿarabīya*. Taʿlīf Muḥammad ibn ʿAlī al-Hawzālī. Taḥqīq ʿUmar ʿAfā. Tarġama ʿIbrāhīm Šaraf ad-Dīn. Casablanca: Maṭbaʿat an-naġāḥ al-ġadīda.
- Agmon, Noam. 2010. "Materials and Language: Pre-Semitic Root Structure Change Comcomitant with Transition to Agriculture", *Brill's Annual of Afroasiatic Languages and Linguistics* 2: 23-79.
- Alvestad, Silje and Lutz Edzard 2009. *la-ḥšōḇ, but la-ḥāzōr? Sonority, Optimality, and the Hebrew π"ז Forms*. (Abhandlungen für die Kunde des Morgenlandes 66.) Wiesbaden: Harrassowitz.
- Ameur, Meftaha et al. 2006. *Graphie et orthographe de l'amazighe*. Rabat: Publications de l'IRCAM. Centre de l'Aménagement Linguistique.
- Azrak, Nora [Al-ʿAzraq, Nūra]. 2005. *Al-ġins wa-l-ʿadad fī ʿasmāʾ al-lahġa ar-rīfīya: muqāraba fī ʿiṭār naẓarīyat al-mufaḍdala*. Doctoral dissertation, Ġāmiʿat Muḥammad al-ʿAwwal, Wujda.
- Basset, André. 1945. "Sur la voyelle initiale en berbère", *Revue Africaine* 402-403: 82-88.
- Basset, André. 1946. "Le système phonologique du berbère", *Comptes rendus du G.L.E.C.S.* 4: 33-36.
- Ben Abbas, Mohamed. 2003. *Variations et emprunts lexicaux. Etude sociolinguistique sur le parler amazigh de Figuig*. Doctoral dissertation, FLSH, Université Sidi Mohammed Ben Abdellah, Fès.
- Boogert, Nico van den. 1997. *The Berber Literary Tradition of the Sous. With an edition and translation of the "Ocean of Tears" by Mohammad Awzal*. (Publication of the De Goeje Fund XXVII.) Leiden: Nederlands Instituut voor het Nabije Oosten.
- Boogert, Nico van den. 1998. *"La révélation des enigmas", lexiques Arabo-Berbère des XVIIe et XVIIIe siècles*. (Traduit de l'Anglais par Claude Brenier Estrine.) Aix-en-Provence: Travaux et documents de l'IREMAM 19.
- Boumalk, Abdallah. 2003. *Manuel de conjugaison du tachelhit*. Paris: L'Harmattan.
- Brugnatelli, Vermondo. 1998. "La morphologie des noms berbère en *w-*. Considérations diachroniques." In: Mohamed Elmedlaoui, Saïd Gafaïti, and Fouad Saa (eds.). *Actes du 1^{ier} Congrès Chamito-sémitique de Fès*. Fès: Publication de la Faculté des Lettres et des Sciences Humaines Saïs-Fès. 51-67.
- Chafik, Mohamed [Šafīq, Muḥammad]. 1999-2003. *Al-muʿġam al-ʿarabī al-ʿamāzīgī*. 3 vols. Rabat: ʿAkadīmīyat al-mamlaka al-maġribīya.
- Chaker, Salem. 1984. *Textes en linguistique berbère (Introduction au domaine berbère)*. Paris: Editions du C.N.R.S.
- Chaker, Salem (1995) *Linguistique berbère. Etude de syntaxe et de diachronie*. Paris/Louvain: Peeters.
- Chaker, Salem and Sliman Hachi. 2000. "A propos de l'origine et de l'âge de l'écriture lybico-berbère. Reflexions du linguiste et du préhistorien." In: Salem Chaker and Andrzej Zaborski (eds.). *Etudes berbères et chamito-sémitiques. Mélanges offerts à Karl-G. Prasse*. Paris/Louvain: Peeters. 95-111.

- Chami, Mohamed. 1979. *Un parler Amazigh du Rif Marocain*. Thèse de Doctorat de Troisième Cycle, Université de Paris 5. Paris.
- Chouraqui, André. 1998. *Histoire des Juifs en Afrique du Nord. En exil au Maghreb*. Monaco: Editions du Rocher.
- Cohen, Marcel. 1969. *Essai comparatif sur le vocabulaire et la phonétique du Chamito-Sémitique*. Paris: Editions Champion.
- Cortade, Jean-Marie and Mouloud Mammeri. 1967. *Lexique français-touareg: Dialecte de l'Ahaggar*. Algiers/Paris: CRAPE/ Arts et Métiers Graphiques.
- Dallet, Jean-Marie. 1982. *Dictionnaire Kabyle-Français. Parler des At Mangellat*. Paris: SELAF.
- Dallet, Jean-Marie. 1985. *Dictionnaire français-kabyle. Parler des At Mangellat*. Paris: SELAF.
- Dell, François and Mohamed Elmedlaoui. 1985. "Syllabic Consonants and Syllabification in Imdlawn Tashlhiyt Berber", *Journal of African Languages and Linguistics* 7: 105-130.
- Dell, François and Mohamed Elmedlaoui. 1988. "Syllabic Consonants in Berber: some new evidence", *Journal of African Languages and Linguistics* 10: 1-17.
- Dell, François and Mohamed Elmedlaoui. 1989. "Clitic Ordering, Morphology and Phonology in the Verbal Complex of Imdlawn Tashlhiyt Berber, part I", *Langues Orientales Anciennes: Philologie et Linguistique* 2: 165-194.
- Dell, François and Mohamed Elmedlaoui. 1991. "Clitic Ordering, Morphology and Phonology in the Verbal Complex of Imdlawn Tashlhiyt Berber, part II", *Langues Orientales Anciennes: Philologie et Linguistique* 3: 77-104.
- Dell, François and Mohamed Elmedlaoui. 1992. "Quantitative transfer in non-concatenative morphology of Imdlawn Tashlhiyt Berber", *Journal of Afroasiatic Languages* 3: 89-125.
- Dell, François and Mohamed Elmedlaoui. 1996. "On Consonant Release in Imdlawn Tashlhiyt Berber", *Linguistics* 34: 357-395.
- Dell, François and Mohamed Elmedlaoui. 1997a. "Les géminées en berbère", *Linguistique Africaine* 19: 5-55.
- Dell, François and Mohamed Elmedlaoui. 1997b. "La syllabation et les géminées dans la poésie berbère du Maroc (dialect chleuh)", *Cahiers de Grammaire* 22: 1-95.
- Dell, François and Mohamed Elmedlaoui. 2002. *Syllables in Tashlhiyt Berber and in Moroccan Arabic*. (The Kluwer International Handbooks in Linguistics, vol. 2.) Dordrecht/Boston/London: Kluwer Academic Publishers.
- Dell, François and Mohamed Elmedlaoui. 2007. "Mot, vers et domaine de syllabation dans la chanson chleuhe." In: Elisabeth Delais-Roussarie and Laurence Labrune (eds.). *Des sons et des sens. Données et modèles en phonologie et en morphologie*. Paris: Lavoisier HERMES. 269-286.
- Dell, François and Mohamed Elmedlaoui. 2008. *Poetic Meter and Musical Form in Tashlhiyt Berber Songs*. Berber Studies, vol. 19. Cologne: Rüdiger Köppe Verlag.

- Dell, François and Mohamed Elmedlaoui. 2010 (ms.). "Syllables and Gemination in Imperfective Stems in Tashlhiyt Berber."
- Dell, François and Ouafae Tangi. 1993. "On the Vocalization of /r/ in Ath Sidhar Rifian Berber", *Linguistica Communicatio* 1-2: 5-54.
- Destaing, Edmond. 1920. *Etude sur la tachelhît du Soûs I; vocabulaire français-berbère*. Paris: Leroux.
- Dray, Maurice. 1998. *Dictionnaire français-berbère. Dialecte des Ntifa*, Paris: L'Harmattan.
- Edzard, Lutz. 1998. "The Obligatory Contour Principle and Dissimilation in Afroasiatic", *Journal of Afroasiatic Languages* 3: 151-171.
- Edzard, Lutz. 2001. "Problems with Post-vocalic Spirantization in Syriac: Cyclic Rule Ordering vs. Early Phonemization with Paradigmatic Levelling", *Journal of Semitic Studies* 46/1: 77-95.
- Elmedlaoui, Mohamed. 1985. Le parler berbère chleuh d'Imdlawn, segments et syllabation; thèse de doctorat de 3ème cycle, Université de Paris VIII à Saint Denis.
- Elmedlaoui, Mohamed. 1988. "De la gémination", *Langues Orientales Anciennes, Philologie et Linguistique* 1: 117-156.
- Elmedlaoui, Mohamed [al-Madlāwī, Muḥammad]. 1990a. "Mabādi' al-muqārana al-ḥāmīya as-sāmīya 'alā ḍaw' mafhūm al-faṣā'il aṣ-ṣawtīya aṭ-ṭabī'īya", *Mağallat kullīyat al-'ādāb bi-Wuḡda* 1: 53-95.
- Elmedlaoui, Mohamed [al-Madlāwī, Muḥammad]. 1990b. "Mulūd Mu'ammārī al-luḡawī: qirā'a fī kitāb Tajrrumt N'tmazigh", *Awal, Cahiers d'Études Berbères* (numéro special: Mouloud Mammeri): 251-262.
- Elmedlaoui, Mohamed. 1993. "Gemination and Spirantization in Hebrew, Berber and Tigrinya: a 'Fortis-Lenis Module' Analysis", *Linguistica Communicatio* 5/1-2: 121-176.
- Elmedlaoui, Mohamed. 1994. "Extension de la racine en chamito-sémitique", *Linguistique Africaine* 12: 93-118.
- Elmedlaoui, Mohamed. 1995a. *Aspects des représentations phonologiques dans certaines langues chamito-sémitiques*. Rabat: Publication de la Faculté des Lettres et des Sciences Humaines.
- Elmedlaoui, Mohamed. 1995b. "Géométrie des restrictions de cooccurrence de traits en sémitique et en berbère: synchronie et diachronie", *Revue Canadienne de Linguistique* 40/1: 39-76.
- Elmedlaoui, Mohamed. 1998a. "'Tajerrumt' de Mouloud Mammeri: lecture analytique", *Awal, Cahiers d'Études Berbères* 18: 115-131.
- Elmedlaoui, Mohamed. 1998b. "Le substrat berbère en Arabe Marocain: un système de contraintes" *Langues et Littératures*, vol. 16 (*Contact et évolution historique des langues au Maroc*): 137-165. Rabat: Publications de la Faculté des Lettres et des Sciences Humaines.
- Elmedlaoui, Mohamed, Saïd Gafāiti, and Fouad Saa (eds.). 1998. *Actes du Premier Congrès Chamito-Sémitique de Fès*. Fès: Publications de la Faculté des Lettres et des Sciences Humaines, Saïs-Fès.

- Elmedlaoui, Mohamed. 1999. *Principes d'orthographe berbère en graphie arabe ou latine*. Oujda: Publications de la Faculté des Lettres et des Sciences Humaines [25; series: Etudes et Monographies 6.]
- Elmedlaoui, Mohamed. 2000. "L'Arabe Marocain: un lexique sémitique inséré sur un fond grammatical berbère." In: Salem Chaker and Andrzej Zaborski (eds.). *Etudes Berbères et Chamito-Sémitique. Mélanges offerts offerts à Karl-G. Prasse*. Paris-Louvain: Peeters. 155-187.
- Elmedlaoui, Mohamed. 2001. "A Cross-cultural reading in a Kabyle Berber Grammar Handbook (Mammeri's Tajerrumt)". In: Hannes Kniffka (ed.). *Indigenous Grammar Across Cultures*. Frankfurt a.M. et al.: Peter Lang. 379-401.
- Elmedlaoui, Mohamed. 2006a. "Traduire le nom de Dieu dans le Coran: le cas du berbère." In: Dymitr Ibiriszimow, Rainer Vossen, and Harry Stroomer (eds.). *Etudes berbères III: Le nom, le pronom et autres articles*, Cologne: Rüdiger Köppe Verlag. 105-115.
- Elmedlaoui, Mohamed. 2006b. "Le Berbère et l'histoire du plurilinguisme au Maghreb (le cas du Maroc", *Etudes et documents berbères* (Paris, novembre 2006) 23: 153-178.
- Elmedlaoui, Mohamed. 2006c. "Questions préliminaires sur le mètre de la chanson rifaine." *Etudes et documents berbère* (Paris, décembre 2006) 24: 161-191.
- Elmedlaoui, Mohamed. ms. (2008). "L'historicité des Juifs Berbères revisitée: L'apport du lexique et de la philology."
- Elmedlaoui, Mohamed. 2011. "Système, typologie et changement phonétique diachronique: les cas *g et *q dans les études chamito-sémitiques", *Etudes et Documents Berbères* 29-30 (*Mélanges en l'honneur de Pierre Encrevé*). 133-153.
- Ennaji, Moha. 2005. *Multilingualism, Cultural Identity, and Education in Morocco*. New York: Springer.
- Foucauld, Charles de. 1951. *Dictionnaire touareg-français; dialecte de l'Ahaggar*. 4 vols. Paris: Imprimerie de France.
- Galand, Lionel. 2000. "La langue touaregue." In: Salem Chaker and Andrzej Zaborski (eds.). *Etudes berbères et chamito-sémitiques. Mélanges offerts à Karl-G. Prasse*. Paris/Louvain: Peeters. 189-201.
- Galand, Lionel. 2002. *Études de linguistique berbère*. Louvain-La-Neuve/Paris: Klincksieck.
- Galand, Lionel. 2010. *Regards sur le berbère*. Milan: Centro Studi Camito-Semitici di Milano.
- Galand-Pernet, Paulette. 1998. *La littérature berbères. Des voix, des lettres*. Paris: P.U.F.
- Galand-Pernet, Paulette et Haïm Zafrani. 1974. "Sur la transcription en caractères hébraïques d'une version berbère de la Haggadah de Pessah". In: André Jacquot et David Cohen (eds.). *Actes du Premier Congrès International de Linguistique Sémitique et Chamito-sémitique (Paris 16-19 juillet 1969)*. Paris/The Hague: Mouton. 113-146.
- Gelb, J. Ignace. 1969. *Sequential Reconstruction of Proto-Akkadian*. [The Oriental Studies Institute of the University of Chicago. Assyriological Studies 18.] Chicago: The University of Chicago Press.

- Guerssel, Mohamed. 1983. "A phonological analysis of the Construct State in Berber", *Linguistic Analysis* 11/3: 309-330.
- Gesenius, Wilhelm (as translated by Edward Robinson; reprint 1951). *A Hebrew and English Lexicon of the Old Testament. With an appendix containing Biblical Aramaic*. Oxford: Clarendon Press.
- Hamdaoui, Mohamed. 1985. *Description phonétique et phonologique d'un parler amazigh du Rif Marocain (Province d'Alhoucima)*. Thèse de Doctorat de Troisième Cycle. Université de Provence, Aix-Marseille-I.
- Herodotus. (1994). *The Histories*. Translated by Aubrey de Sélincourt. Revised with introductory matter and notes by John Marincola. Harmondsworth: Penguin Books.
- Idsardi, William J. 1998. "Tiberian Hebrew Spirantization and Phonological Derivation", *Linguistic Inquiry* 29: 37-73.
- Jebbour, Abdelkrim. 1988. *Processus de formation du pluriel nominal en Tamazight (tachelhit de Tizint)*. Mémoire D.E.S. Département de Langue et de Littérature Françaises. Université Mohammed V, Rabat.
- Kautzsch, Emil. 1910. *Gesenius' Hebrew Grammar*. As edited and enlarged by the late E. Kautzsch. Second English Edition by A. E. Cowley. Oxford: Clarendon Press.
- Kirchner, Robert. 2000. "Geminate Inalterability and Lenition", *Language* 76: 509-545.
- Kossmann, Maarten. 1989. "L'inaccompli négatif en berbère", *Etudes et Documents Berbères* 6: 19-29.
- Kossmann, Maarten. 1997. *Grammaire du parler berbère de Figuig (Maroc oriental)*. Paris/Louvain: Peeters [M.S. 10 Ussun amaziq; SELAF 3664.]
- Kossmann, Maarten. 1999. *Essai sur la phonologie du proto-berbère*. Cologne: Rüdiger Köppe Verlag.
- Kossmann, Maarten. 2007. "Berber Morphology." In: Alan S. Kaye (eds.). *Phonologies of Asia and Africa*, vol. 1. Winona Lake: Eisenbrauns. 429-446.
- Kossmann, Maarten and Harry Stroemer. 1997. "Berber Phonology." In: Alan S. Kaye and Peter D. Daniels (eds.). *Phonologies of Asia and Africa*, vol. 1. Winona Lake: Eisenbrauns. 461-476.
- Laoust, Emile. 1920. *Mots et choses berbères. Notes de linguistique et d'ethnographie. Dialectes du Maroc*. Rabat: CALLQUES. Société Marocaine d'Édition.
- Labdellaoui, Rachid. 1997. *Binyat al-ʿanāšir aš-šarfiya fi l-luġa al-ʿamāziġiya, ḥālat at-taṭābuq bayn al-fiʿl wa-l-fāʿil*. Thèse de diplôme, Faculté des Lettres et des Sciences Humaines, Oujda.
- Laredo, Abraham I. 1954. *Berberes y hebreos en Marruecos: sus orígenes, según las leyendas, tradiciones y fuentes hebraicas antiguas*. Madrid: Instituto de Estudios Africanos, Consejo Superior de Investigaciones Científicas.
- Lowenstamm, Jean and Jonathan Kaye. 1985. "Compensatory Lengthening in Tiberian Hebrew." In: Leo Wetzels and Engin Sezer (eds.). *Studies in Compensatory Lengthening*. Dordrecht: Foris Publications. 97-132.

- Lowenstamm, Jean. 2010. "An introductory note to Noam Agmon's 'Material and Language' with special attention to the Issue of Biliteral Roots", *Brill's Annual of Afroasiatic Languages and Linguistics* 2: 1-22.
- Mammeri, Mouloud. 1976. *Tajerrumt N Tmaziyt (Tantala Taqbaylit). Grammaire berbère (kabyle)*. Paris: François Maspero.
- McCarthy, John. 1987. "The Featural Structure of the Semitic Roots". ms. University of Massachusetts at Amherst.
- Moscatti, Sabatino et al. 1964. *An Introduction to the Comparative Grammar of the Semitic Languages; Phonology and Morphology*. Wiesbaden: Harrassowitz.
- Ouhalla, Jamal. 1989. Publications de la Faculté des Lettres et des Sciences Humaines Clitic Movement and the ECP: Evidence from Berber and Romance Languages", *Lingua* 79: 165-215.
- Podeur, Jean. 1995. *Textes berbères des Aït Souab*. Édités et annotés par Nico van den Boogert, Michelle Scheltus, Harry Stroomer. Aix-en-Provence: Edisud.
- Prasse, Karl-G. 1972-1974. *Manuel de grammaire touarègue (tahaggart)*. 1972: I-III Phonétique. Écriture. Pronom. 1973: VI-VII Verbe. 1974: IV-V Nom. Copenhagen: Editions de l'Université de Copenhagen and Akademisk Forlag.
- Ridouane, Rachid. 2003. "La gémination et la spiration en berbère (chleuh): analyses accoustiques et photoglottographiques." Communication du 22 mai 2003 au G.L.E.C.S.
- Rosenthal, Franz. 1983 (5th ed.). *A Grammar of Biblical Aramaic*. Wiesbaden: Harrassowitz.
- Roux, Arsène. 2007. *Textes berbères du Maroc Central. Textes originaux en transcription*, ed. by Harry Stroomer. [Berber Studies. Volume 18.] Cologne: Rüdiger Köppe Verlag.
- Saa, Fouad. 2010. *Quelques aspects de la morphologie et de la phonologie du berbère d'un parler amazighe de Figuig*. Rabat: Institut Royal de la Culture Amazighe.
- Stroomer, Harry. 2001. *Textes berbères de Guedmioua et Goundafa (Haut Atlas, Maroc), basés sur les documents de F. Corjon, J.-M. Franchi et J. Eugène*. Aix-en-Provence: Edisud.
- Stroomer, Harry. 2004. *Tashlhiyt Berber Texts from Ida u Tanan (South Morocco)*. [Berber Studies. Volume 9.] Cologne: Rüdiger Köppe Verlag.
- Taifi, Miloud. 1991. *Dictionnaire Tamazight-Français (Parler du Maroc central)*. Paris: L'Harmattan – Awal.
- Zaborski, Andrzej. 1998. "Linguistique Chamito-sémitique, cinquante années après l'Essai Comparatif de David Cohen." In: Mohamed Elmedlaoui, Saïd Gafaïti, and Fouad Saa (eds.). *Actes du 1^{ier} Congrès Chamito-sémitique de Fès*. Fès: Publication de la Faculté des Lettres et des Sciences Humaines Saïs-Fès. 23-35.
- Zavadovskij, Jurij N. 1974. "Le noms de nombre berbères, à la lumière des études comparées chamito-sémitiques." In: André Jacquot et David Cohen (eds.). *Actes du premier congrès international de la linguistique sémitique et chamito-sémitique (Paris 16-19 juillet 1969)*. Paris/The Hague: Mouton. 102-112.